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# Research on user participation behavior of mobile short video APPs: Taking Xiaohongshu as an example

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**ABSTRACT**

Short video apps for mobile devices are rising in popularity. Using Xiaohongshu as an example, this work carefully studies the user participation behavior of mobile short video Apps and contributes to the body of knowledge in the field of pertinent theoretical research. This study equips creators of short videos with the knowledge they require to improve user experience and content marketing on a more objective basis, as well as to enable app upgrading and optimization. The UTAUT theoretical model is used in this paper to develop hypotheses, which are then tested using survey data. Finally, the theoretical model and hypothesis are validated using multiple regression analysis and hierarchical regression analysis. The significant study results are as follows: Users' behavior is significantly influenced by social value, perceived entertainment value, individual innovation, facilitating conditions, and privacy security when using communities; by social value, individual innovation, facilitating conditions, and privacy security when participating in communities; and by social value, facilitating conditions, and privacy security when contributing to communities. Finally, it makes some suggestions for the long-term expansion of mobile short video apps based on the testing results.

*Keywords*: Xiaohongshu; user participation; influencing factors; behavioral research.

## INTRODUCTION

Mobile short videos were created as a new media format as a result of the expansion of 5G networks and the full adoption of 4G networks in recent years. These developments also encouraged the continued growth of the social media business(Li, 2021). Mobile short video has been quickly adopted by people due to the fragmentation of its transmission style and the qualities of short and quick information. After "Tik Tok," a user-generated content (UGC) site, first appeared, it set off a never-ending Carnival of people making, watching, and sharing short videos(Fang et al., 2019). With 934 million short video consumers and a 90.5 percent utilization rate as of December 2021, the short video business has reached a mature stage of growth. The mobile short video market is expected to become more competitive in the future, despite the industry's promising future. Under the background that the user market tends to be saturated and it is difficult to attract new users, how to improve the stickiness of old users and gain competitive advantage has become a problem that needs to be considered for short video platforms.

Mobile short video apps differ from traditional social networking in several ways. Their user bases are frequently younger and extremely concerned with their personal data protection. They start using mobile short video apps because they are drawn to new technology. They are able to submit videos on the site and share their lives because of their particular ingenuity(Wang, 2020). Long-term exposure, however, may cause individuals to develop a fear of information disclosure, which makes them less willing to engage in the user community and use goods and services(Jin & Yu, 2021). Contributing content also involves substantial community involvement and usage. One form of entertainment cannot draw people into the community profoundly; it can only draw people into using the app. All of these impede user stickiness growth and are unfavorable to the creation of mobile short video apps.

With a concept and set of traits focused on people exchanging knowledge and sharing their lives, Xiaohongshu successfully captures the user market and eventually claims a position in this background(Sun & Ly, 2022). A "social + e-commerce shopping community" is the Xiaohongshu app. The most recent figures show that Xiaohongshu has more than 200 million active monthly users, 43 million+ sharers, and creates billions of note exposures and millions of video exposures daily. Its material covers a range of life and academic topics, including clothing, beauty products, food, travel, movies and television, books, and fitness. The reasons for Xiaohongshu's success as a representative example of the developing user generated content(UGC) community platform are worth investigating and discussing.

The purpose of this work is to investigate the elements that influence user participation behavior in mobile short video apps using xiaohongshu as the research sample. Scholars' perspectives on how user participation behavior is divided vary(Vroom & Jago, 1988). Based on the UTAUT model and the characteristics of short video, this paper also explains the concept of user participation behavior. Then, present hypotheses and create questionnaires, use statistical software spss23.0 to perform a series of scientific and meticulous analyses on the amassed effective sample data, and use multiple regression analysis and hierarchical regression analysis to confirm the theoretical model and hypothesis, in order to thoroughly explore user participation behavior in mobile short video apps. Finally, the article proposes appropriate actions, which offer an objective

foundation for the operation and future development of mobile short video apps, allowing short video operators to take appropriate action to enhance user experience and content marketing effectiveness, encourage the optimization and upgrading of mobile short video apps, and boost user interaction. The improvement of page structure, along with the optimization and upgrading of short video apps, can help users better understand each function's purpose when using the product, increase their willingness to contribute content, meet their social needs, and find value and satisfaction in the online virtual community. This study is innovative in that existing research on mobile short video apps frequently utilizes "Tik Tok" as an example and focuses more on the short video's communication style and marketing approach(Schellewald, 2021). The key to increasing user stickiness is Xiaohongshu's virtual community's significant content contribution. Therefore, the research approach differs from earlier studies, focusing more on the psychology of users and their participation in virtual communities.

## LITERATURE REVIEW

### Concept of user participation behavior

According to the literature, there are two types of engagement behavior that are more prevalent and important on social media:

1. Community Participation: Interpersonal communication between members, both online and offline, such as talking about issues affecting the group, taking part in community administration, and even organizing community events, is referred to as community participation(Hu et al., 2016).
2. Content contribution: It means that people actively contribute original articles, movies, photographs, etc. to the site. User behavior, brand commitment, product reputation, and perceived revenue are all intimately related to content creation, community involvement, and product innovation on social media(Lin et al., 2014).

It may be concluded that user engagement at a high degree and consistency is crucial for online communities to succeed(Xu & Li, 2015). However, in earlier studies, a different type of user interaction was frequently overlooked. Community use refers to merely browsing and reading content on social media platforms; it is a passive type of participation(Lutz & Hoffmann, 2017). Numerous studies have found that most participants prefer to learn more about other people while interacting with them less(Hartmann et al., 2015). Some research have argued for a more thorough understanding of this latency-related passive participation behavior in recent years(Long & Zhang, 2014). They contend that passive participation is not only pointless but may also produce beneficial effects for the outside world, such as effects related to reputation, reputation, and networks. Early reading and viewing experiences can really pave the way for more extensive participation(Yuan et al., 2021). Additionally, consumers may feel content and entertained via this passive participation process. As a result, This study also considers community use.

### Model of user participation behavior

A mobile client, which is simply an information system, is the foundation of the mobile short video app, a social application. There are numerous theories that can explain user participation behavior, such as rational choice theory(Herfeld, 2020), technological acceptance model(Torres Albero et al., 2017), social cognitive theory(Schunk & DiBenedetto, 2020), etc., according to the analysis of the pertinent theories of information system user behavior. It is challenging to explain the state of mobile short video apps in the era of mobile Internet in many ways because these theories are primarily applied to research in the era of traditional media, the variables studied are relatively simple, and the consideration of external variables is not comprehensive enough.

This paper claims that the unified theory of acceptance and use of technology (UTAUT) put forth by Viswanath(2003) is the most appropriate model for this work based on an analysis of the pertinent theories of user behavior. On the one hand, UTAUT is a traditional model for the adoption of information technology, on the other hand, the model has strong scalability and may suitably include corresponding external components(Sharma, 2020). UTAUT has currently been used in numerous kinds of APP user behavior study. Tak and Panwar(2017) looked into the variables that affected Indian mobile app users' purchasing decisions. It illustrates how habits have a significant impact on users' intentions. Alhadid et al.(2022) investigated several aspects that influence the use of the SANAD app as a health protection tool using mature models like UTAUT, TAM, and extended PBT. All of the variables in UTAUT have substantial effects, according to the findings. In order to develop niche tourism, Wu and Lai(2021) examined the elements influencing the behavior of film visitors on the Chinese Mainland and developed promotion methods for destination governments. They also gave insight for the creators of augmented reality tourism applications.

## RESEARCH DESIGN

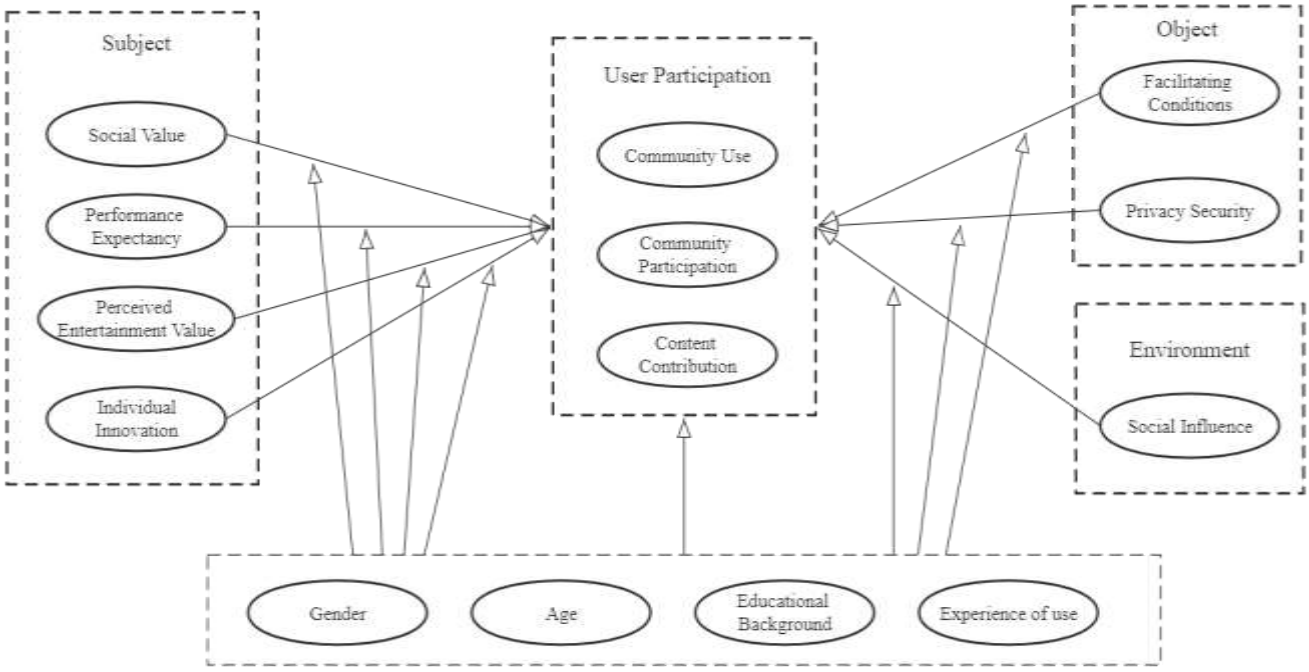
### Research Model

The UTAUT model incorporates a number of earlier theoretical frameworks and proposes four fundamental variables: Performance Expectancy(PE), Effort Expectancy(EE), Social Influence(SI), and Facilitating Conditions(FC); in addition, it also proposes four regulatory variables: gender, age, experience, and voluntariness of use. Since the majority of Xiaohongshu's users come from generations that were born in the 1990s and are known for being open to trying new things, including short video apps. The voluntariness of use is therefore outside the purview of this document. They don't make much of an effort to use the Xiaohongshu. Whether using APP will make them happier is a very unstable aspect. this study adjusts the definition and nomenclature of EE to Perceived Entertainment Value and in order to better meet this research issue.

As of right now, academics from a variety of fields have acknowledged the UTAUT model's dependability and accuracy, making it extensively used across many disciplines. Practice has shown that this model may explain user behavior with an explanatory power of up to 70%, outperforming several earlier conventional models. It provides a more thorough explanation of why users accept science and technology in particular. Users' acceptance of mobile short video APPs as a new information system in the age of intelligent Internet has had an impact on their varied APP activities. As a result, the UTAUT model is used as the foundational model in this study of user involvement behavior for mobile short video apps. New variables are added to the model in order to alter it for these apps' unique qualities and create an influencing factor. In order to build an influential factor model of user participation behavior of mobile short video app and make the model more scientific, this paper uses the UTAUT model as the foundational model to study the user participation behavior of mobile short video apps. Additionally, it introduces new variables to adjust the model in combination with the characteristics of mobile short video apps. Users may lose the urge to voice their opinions when utilizing virtual communities due to the numerous incidences of information leakage on the Internet and the associated risk of information leakage. Additionally, the user's educational background and capacity for invention may be related to the logical thinking and language organization required for the content creation on the APP. Therefore, "Individual Innovation," "Educational Background," and "Privacy Security" are the new factors. The users themselves, the APP being used, and the environment are all involved in the process of using mobile video APPs. Therefore, to more clearly separate the characteristics of variables, this study classifies variables into subject, object, and environment.

**Hypothesis Development**

The users of Xiaohongshu are used as the research subject in this paper, which develops a theoretical model based on the UTAUT model, modifies and eliminates the original UTAUT model variables appropriately by reviewing relevant literature and taking into account the actual situation, introduces four influencing factors—social value, perceived entertainment value, individual innovation, and privacy security—and divides these factors into three perspectives—subject, object, and environment. The primary variables are the internal variables that influence how Xiaohongshu is used by users; Object factors are those elements that have an impact on the Xiaohongshu platform itself; Environmental elements are those aspects of the outside environment that have an impact on how Xiaohongshu are used by users. In addition, it is suggested that gender, age, educational attainment, and usage experience along with the user's personal characteristics play a regulatory role in various factors. A model of influencing factors of mobile short video app user involvement behavior is created, as shown in Figure 1:




*Source*: This Study

Figure 1 Model of factors about user participation behavior in mobile short video apps

The following explanations of various factors have been updated in light of the research experience of scholars like V. Venkatesh and domestic scholars as well as the requirements of this paper:

1. User Participation: Community use, community participation, and content contribution make up the majority of user participation. Community use is one of them, which refers to more involvement in community engagement and communication as opposed to merely viewing and reading material on the Xiaohongshu platform; Communication between users, such as topic debate, helpful problem-solving, and even engagement in circle formation, is referred to as community participation. Contributing original articles, videos, photographs, and other types of content means that people will actively contribute to and enhance the content.

2. Social Value: It's the important element that Xiaohongshu users perceive in their interactions with one another.
3. Performance Expectancy: It's the notion held by consumers that using small Xiaohongshu can increase the effectiveness of information gathering.
4. Perceived entertainment value: It describes how much consumers think that Xiaohongshu can make them feel good and carefree.
5. Individual innovation: It describes a user's willingness to experiment with novel products, services, or systems.
6. Facilitating Conditions: The level of ease of using Xiaohongshu in relation to pertinent technologies and apparatus in the user's environment is referred to as facilitating conditions.
7. Privacy Security: The level to which users may safeguard their privacy information and minimize security threats while utilizing Xiaohongshu is referred to as privacy security.
8. Social Influence: It also known as the influence of users' immediate surroundings on users' usage of Xiaohongshu, as well as the public relations power of advising users to use Xiaohongshu.

The hypothesis of the link between various adjusting variables, such as gender, age, educational background and experience of use on user participation behavior is provided in Table 1 below. Among them, the influencing factors 2 to 8 are independent variables.

Table 1 Hypothesis

| Number | Hypothesis |
|---|---|
| H1 | Social value has a significant positive impact on user participation behavior |
| H2 | Performance expectancy has a significant positive impact on user participation behavior |
| H3 | Perceived entertainment value has a significant positive impact on user participation behavior |
| H4 | Individual innovation has a significant positive impact on user participation behavior |
| H5 | Facilitating Conditions has a significant positive impact on user participation behavior |
| H6 | Privacy Security has a significant negative impact on user participation behavior |
| H7 | Social Influence has a significant positive impact on user participation behavior |
| H8 | Each variable plays a regulatory role in the impact of the above factors on user participation behavior |

*Source*: This Study

**Questionnaire**

The survey questionnaire method is used in this paper to gather data, and it aims to include all types of Xiaohongshu users in the process. The questionnaire is based on a study of pertinent facts and prior literature research. Its material is split into two sections: the first includes personal fundamental information, and the second is a measurement scale of the factors that influence user participation behavior.

The first section's goal is to demonstrate how users actually utilize the product. It includes closed-ended questions about users' gender, age, educational attainment, and use experience as well as a scaled review of other comparable goods. The questionnaires and measurement items of various scholars who have studied participation behavior were consulted in the construction of the second section of this paper, which ultimately yielded 10 variables and 29 measurement questions. For specific questions, see Table 2.

Table 2 Measuring Scale

| variable | Measurement items |
|---|---|
| Social Value | SV1: I can communicate with other users on Xiaohongshu |
| | SV2: I can communicate with my friends on Xiaohongshu |
| | SV3: I can make new friends on Xiaohongshu |
| Performance expectancy | PE1: I can get a lot of information such as news and food on Xiaohongshu |
| | PE2: I can get some valuable information such as life and study on Xiaohongshu |
| | PE3: I think Xiaohongshu is useful |
| Perceived entertainment value | PEV1: Using Xiaohongshu is enjoyable |
| | PEV2: Using Xiaohongshu is easy and relaxed |
| | PEV3:Using Xiaohongshu is interesting |
| Individual innovation | II1：I'm curious about new platforms and technologies |
| | II2：Among the people around me, I tend to be the first to use new technology products or services |
| | II3：Generally speaking, I like to constantly try and accept new things |
| Facilitating Conditions | FC1：When the mobile device network is good, the function and service of loading Xiaohongshu are smooth |
| | FC2：When mobile devices operate stably, they respond quickly when using Xiaohongshu |
| | FC3：If there is any problem, I can ask for help on Xiaohongshu |
| Privacy Security | PS1：I'm worried that using Xiaohongshu will reveal my personal information |

| | |
|---|---|
| | PS2：I'm worried that using Xiaohongshu will bring me safety risks |
| Social Influence | SI1：I have friends who use Xiaohongshu |
| | SI2：There are friends around me who think Xiaohongshu are useful |
| | SI3：A friend around me suggested that I use the Xiaohongshu |
| Community Use | CU1：I use Xiaohongshu frequently |
| | CU2：I often use Xiaohongshu |
| | CU3：I keep using Xiaohongshu |
| Community Participation | CP1: I help other users answer their questions on Xiaohongshu |
| | CP2: I participated in the discussion on community issues on Xiaohongshu |
| | CP3: I actively participate in relevant activities on Xiaohongshu |
| Content Contribution | CON1：I often write articles and edit comments on Xiaohongshu |
| | CON2：I often edit videos and comments on Xiaohongshu |
| | CON3：I often add new videos and comments on Xiaohongshu |

*Source*: This Study

Following design, the questionnaire was made available on social media platforms. Sample data was gathered, and 338 questionnaires were obtained. The questionnaires with too little time for answers or repeated questions back-to-back with the same response were removed to ensure the validity and dependability of the survey data. In the end, 291 legitimate questionnaires were kept, and the efficiency of the questionnaire was roughly 86.09 percent.

## DATA ANALYSIS

### Descriptive Statistics Analysis

The 291 valid survey responses in this study were from Xiaohongshu users in diverse geographical areas, see Table 3. There are roughly equal numbers of male and female survey participants across all age demographics and educational levels, and that the sample distribution is fair.

Table 3 Information of Xiaohongshu's Users

| Statistical items | | Value | Percentage |
|---|---|---|---|
| Gender | Male | 145 | 49.83% |
| | Female | 146 | 50.17% |
| Age | Under 18 | 26 | 8.93% |
| | 18-25 | 163 | 56.01% |
| | 26-35 | 52 | 17.87% |
| | 36-45 | 35 | 12.03% |
| | Over 45 | 15 | 5.15% |
| Educational Background | Secondary Degree | 84 | 28.87% |
| | Undergraduate Degree | 185 | 63.57% |
| | Master's Degree and Doctor's Degree | 22 | 7.56% |
| Time Spent Using Xiaohongshu | Within 2 Months | 103 | 35.4% |
| | 2-6 Months | 62 | 21.31% |
| | 6-18 Months | 61 | 20.96% |
| | More than 18 Months | 65 | 22.34% |
| Frequency of Using Xiaohongshu | Everyday | 62 | 21.31% |
| | Once every 2-3 days | 80 | 27.49% |
| | Once a week | 50 | 17.18% |
| | Less than once a week | 99 | 34.02% |
| Use Experience of Mobile Short Video APPs | Strongly Inexperienced | 21 | 7.22% |
| | Inexperienced | 45 | 15.46% |
| | Neither Inexperienced or Experienced | 64 | 21.99% |
| | Experienced | 90 | 30.93% |
| | Strongly Experienced | 71 | 24.4% |

*Source*: This Study

### Reliability Analysis

The stability and consistency of the outcomes determined by the scale tool are referred to as reliability. The internal consistency of the scale and the reliability of each variable are tested using the Cronbach's alpha reliability coefficient in the SPSS 23.0 program. Table 4 displays the findings of the reliability analysis performed on the survey data used in this study. In general, a Cronbach's alpha value of 0.9 or higher indicates that a questionnaire is extremely reliable; 0.8 to 0.9 indicates that a

questionnaire is reliable; 0.6 to 0.8 indicates that a questionnaire's reliability is within acceptable bounds; and 0.6 or less indicates that a questionnaire's reliability is low. The table below shows that all variables' Cronbach's alpha values and the Cronbach's alpha values of removed items are larger than 0.75, most of which are above 0.8, demonstrating the questionnaire's strong internal consistency and stability as well as its good reliability.

Table 4 Reliability Analysis

| variable | Cronbach'Alpha |
|---|---|
| Social Value | 0.884 |
| Performance Expectancy | 0.879 |
| Perceived Entertainment Value | 0.898 |
| Individual Innovation | 0.879 |
| Facilitating Conditions | 0.844 |
| Privacy Security | 0.772 |
| Social Influence | 0.859 |
| Community Use | 0.922 |
| Community Participation | 0.919 |
| Content Contribution | 0.929 |

*Source*: This Study

**Validity Analysis**

Validity is the degree to which a trait may be accurately assessed by a test or scale, and it can be further broken down into three categories: construction validity, calibration relevance validity, and content validity. The content validity of the scale is good because each variable's measurement items were updated in accordance with prior academic literature; nevertheless, measuring calibration relevance validity requires external calibration instruments that have high levels of validity and reliability. There is currently no measurement scale for the involvement behavior of users of mobile short video apps, hence only the construct validity of the scale is assessed in this instance. Through factor analysis using the SPSS 23.0 statistical package, this research evaluates the construct validity of the scale. The scale's KMO value is 0.810 (> 0.5) indicates that the survey data can be used for factor analysis and that Bartlett's significance is less than 0.01, demonstrating the scale's sound validity structure and suitability for factor analysis. The retrieved 10 factors have enough information because the overall variance interpretation rate of this component is 83.29 percent, which is higher than 60 percent.

Principal component analysis was performed to extract the factors for this test, and maximum variance orthogonal rotation was employed to rotate the factor load matrix. Table 5 shows that there are 10 main components identified by the factor analysis, and that each item's load is greater than 0.8, demonstrating the high validity of this survey.

Table 5 Factor Analysis-Rotate Matrix Elements

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| SV1 | 0.021 | 0.058 | 0.092 | 0.082 | 0.866 | 0.077 | 0.125 | 0.06 | 0.021 | -0.046 |
| SV2 | 0.064 | 0.053 | 0.11 | 0.052 | 0.897 | 0.001 | 0.102 | 0.093 | 0.049 | -0.011 |
| SV3 | 0.123 | 0.118 | 0.13 | 0.094 | 0.858 | 0.016 | 0.054 | 0.044 | 0.124 | -0.039 |
| PE1 | -0.039 | -0.07 | -0.031 | 0.092 | 0.108 | 0.12 | 0.876 | -0.01 | 0.071 | 0.027 |
| PE2 | 0.065 | -0.011 | 0.011 | 0.078 | 0.095 | 0.059 | 0.899 | 0.011 | 0.046 | 0.043 |
| PE3 | 0.064 | 0.044 | 0.002 | 0.033 | 0.069 | -0.01 | 0.874 | 0.05 | 0.125 | -0.06 |
| PEV1 | 0.086 | 0.059 | 0.017 | 0.884 | 0.053 | 0.042 | 0.065 | 0.068 | 0.139 | -0.059 |
| PEV2 | 0.099 | -0.032 | 0.006 | 0.903 | 0.072 | 0.034 | 0.062 | 0.1 | 0.079 | -0.011 |
| PEV3 | 0.035 | 0.084 | 0.002 | 0.889 | 0.098 | 0.028 | 0.078 | 0.013 | 0.102 | 0.052 |
| FC1 | 0.046 | 0.019 | -0.014 | 0.185 | 0.016 | 0.044 | 0.135 | 0.047 | 0.837 | 0.004 |
| FC2 | 0.061 | 0.015 | 0.067 | 0.103 | 0.062 | 0.044 | 0.106 | 0.063 | 0.889 | 0.007 |
| FC3 | 0.118 | 0.191 | 0.115 | 0.038 | 0.116 | 0.118 | 0.006 | 0.026 | 0.816 | -0.049 |
| PS1 | -0.103 | -0.236 | -0.092 | 0.039 | -0.013 | 0.029 | -0.016 | -0.01 | -0.034 | 0.864 |
| PS2 | -0.16 | -0.06 | -0.127 | -0.052 | -0.075 | -0.134 | 0.025 | -0.025 | 0.004 | 0.872 |
| SI1 | 0.008 | -0.032 | 0.01 | 0.063 | 0.055 | 0.023 | -0.009 | 0.904 | -0.022 | 0.031 |
| SI2 | 0.052 | -0.008 | -0.005 | 0.003 | 0.064 | 0.034 | 0.004 | 0.898 | 0.046 | 0.022 |
| SI3 | 0.051 | 0.086 | 0.106 | 0.115 | 0.069 | 0.117 | 0.062 | 0.818 | 0.116 | -0.099 |
| CU1 | 0.882 | 0.189 | 0.185 | 0.062 | 0.07 | 0.081 | 0.027 | 0.058 | 0.068 | -0.065 |
| CU2 | 0.908 | 0.098 | 0.092 | 0.052 | 0.073 | 0.076 | 0.04 | 0.04 | 0.081 | -0.099 |
| CU3 | 0.863 | 0.177 | 0.11 | 0.135 | 0.076 | 0.135 | 0.038 | 0.028 | 0.092 | -0.136 |
| CP1 | 0.107 | 0.883 | 0.184 | 0.035 | 0.073 | 0.067 | -0.022 | 0.042 | 0.095 | -0.064 |
| CP2 | 0.162 | 0.873 | 0.212 | 0.039 | 0.076 | 0.162 | -0.014 | 0.007 | 0.083 | -0.129 |
| CP3 | 0.234 | 0.824 | 0.193 | 0.061 | 0.114 | 0.184 | -0.007 | -0.009 | 0.059 | -0.167 |
| CON1 | 0.111 | 0.166 | 0.891 | -0.023 | 0.156 | 0.131 | -0.043 | 0.07 | 0.066 | -0.071 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CON2 | 0.154 | 0.176 | 0.892 | 0.058 | 0.123 | 0.148 | 0 | 0.06 | 0.066 | -0.071 |
| CON3 | 0.145 | 0.261 | 0.829 | -0.01 | 0.103 | 0.21 | 0.023 | -0.012 | 0.052 | -0.13 |
| II1 | 0.069 | 0.043 | 0.196 | 0.06 | -0.011 | 0.865 | 0.125 | 0.084 | 0.097 | -0.041 |
| II2 | 0.186 | 0.242 | 0.218 | 0.002 | 0.057 | 0.822 | 0.025 | 0.026 | 0.023 | -0.112 |
| II3 | 0.051 | 0.111 | 0.057 | 0.045 | 0.055 | 0.884 | 0.034 | 0.073 | 0.086 | 0.016 |

*Source*: This Study

## RESULTS

In this study, the model is tested and modified using regression analysis in SPSS 23.0. The three components of user engagement behavior—community use, community participation, and content contribution—can be seen from the examples above, thus we must verify the validity of each part's respective hypotheses. By defining H1 (a) - H8 (a) as the hypothesis used by the community use, H1 (b) - H8 (b) as the hypothesis of community participation, and H1 (c) - H8 (c) as the hypothesis of content contribution, this study refines the hypothesis.

### Regression analysis results

We assess the model assumptions inferred in this study using the multiple regression analysis method, which employs the Stepwise method for analysis. Table 6 displays the findings of the regression analysis.

From the impact of various factors on community use, model 1 having the strongest explanatory power when the two variables Performance Expectancy and social influence are excluded. According to the beta value of the regression coefficient, the values for model 1 are, successively, -0.246, 0.2, 0.131, 0.116, and 0.102. If the beta value is negative, it means the independent variable has a negative influence on the dependent variable; if the beta value is positive, it means the independent variable has a positive influence on the dependent variable. Therefore, all five independent factors have a positive effect on community use, with the exception of "privacy security," which has a negative effect. Assume that H1(a), H3(a), H4(a), H5(a), and H6(a) are accurate, whereas H2(a) and H7(a) are unreliable.

Table 6 Regression analysis results

| Model | | Beta | T |
|---|---|---|---|
| 1 community use | (constant) | | 3.002 |
| | PS | -0.246 | -4.601 |
| | II | 0.2 | 3.407 |
| | PEV | 0.131 | 2.112 |
| | FC | 0.116 | 2.074 |
| | SV | 0.102 | 1.995 |
| 2 community participation | (constant) | | 5.333 |
| | II | 0.266 | 4.994 |
| | PS | -0.272 | -5.176 |
| | SV | 0.135 | 2.557 |
| | FC | 0.121 | 2.27 |
| 3 content contribution | (constant) | | 3.65 |
| | II | 0.333 | 6.373 |
| | SV | 0.222 | 4.281 |
| | PS | -0.196 | -3.753 |

*Source*: This Study

From the impact of various factors on community participation, model 2's beta values are 0.266, -0.272, 0.135, and 0.121, respectively. All four independent factors have a positive effect on community participation, with the exception of "privacy security," which has a negative effect. Assume that H1 (b), H2 (b), and H3 (b) are false and that H4 (b), H5 (b), H6 (b), and H7 (b) are true.

From the impact of various factors on content contribution, the three independent variables in model 3 have respective beta values of 0.333, 0.222, and -0.196 from the viewpoint of the regression coefficient beta. The other two independent factors have a positive impact on content contribution, with the exception of "privacy security," which has a negative impact. Since H2 (c), H3 (c), H5 (c), and H7 (c) are not true, let's assume that H1 (c), H4 (c), and H6 (c) are true.

Hierarchical regression analysis is used in this research to determine whether each regulatory variable has a regulatory impact on the independent variables of each dimension. The results are displayed in Table 7 below using the adjustment test of gender on individual innovation and user community use as an example:

Table 7 Hierarchical regression analysis

| Model | R | $R^2$ | Adjusted $R^2$ | Skew And Standard Deviation | $R^2$ change | F Change | Significant F value change |
|---|---|---|---|---|---|---|---|

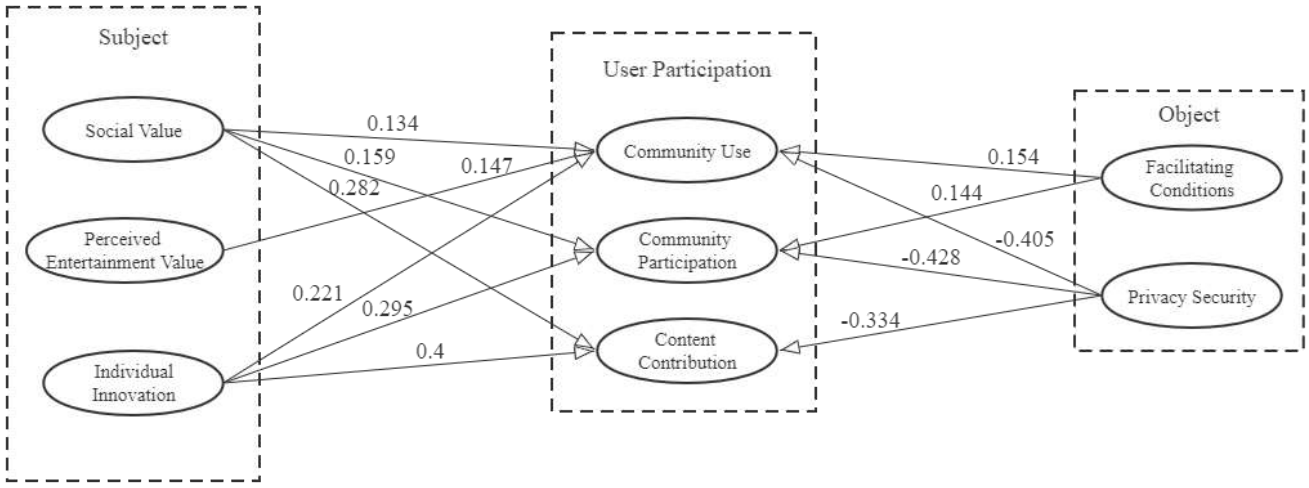
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | .284a | 0.081 | 0.078 | 3.42583 | 0.081 | 25.408 | 0 |
| 2 | .285b | 0.081 | 0.075 | 3.43066 | 0.001 | 0.187 | 0.666 |

*Source*: This Study

The significance of the change in $R^2$ for the second model, which is shown in the table, is 0.666, which is much greater than 0.05, indicating that the regulation effect is not obvious. For the adjustment of gender to the other six independent variables, the corresponding significance of the test results is 0.916, 0.875, 0.960, 0.694, 0.607, and 0.895, all of which are much more significant than 0.05, and ultimately fail to reach the 0.05 significance level.

**Model modification**

The model of influencing factors of user participation behavior of mobile short video apps is adjusted in accordance with the findings of the hypothesis test, and the new model is obtained, as shown in Figure 2:




*Source*: This Study

Figure 2 Adjusted model about user participation behavior of mobile short video APPs

## CONCLUSION AND RECOMMENDATIONS

This study examines the variables that affect user participation in a mobile short video app using qualitative and quantitative methodologies. A modified influencing factor model of user participation behavior for mobile short video apps is suggested based on the verification analysis of the survey results. In addition, the following recommendations are pertinent for app operators and based on the study's experimental findings:

1. To improve user experience, concentrate on simplifying product operation and related functions. When using the product, each user can immediately comprehend the purpose of each function and, thanks to its incredibly straightforward operation, produce the required effect. The platform's interface design should also be optimized, the community's page structure should be improved, and users should be encouraged to keep using mobile short video apps.
2. Boost the interactive entertainment design and the social aspect of the community. In order for consumers to completely experience the satisfaction and enjoyment given by mobile video applications and promote effective user interaction, the social network platform should place a high focus on satisfying users' social needs.
3. Pay attention to the user experience, keep an eye on it, and work to continually raise user satisfaction. Users' propensity to continue making product choices will be improved to some level once their expectations are met. Adhering to their own business and social principles should also be a key consideration. Users can only feel a certain level of community trust and be more likely to be satisfied by the platform by protecting their privacy.

## CONTRIBUTIONS AND IMPLICATIONS

The purpose of this paper is to deeply explore the participation behavior of users in mobile short video apps and put forward corresponding targeted measures, so as to provide valuable reference for the long-term development of short video app. The main contributions of this study are as follows:

In terms of theoretical contribution, this work largely contributes to the body of knowledge on user behavior in mobile short video apps. User behavior research has been done on a variety of apps, according to a study of the literature. Short videos, on the other hand, have grown to be highly popular recently and have turned into apps that people use frequently and for extended periods of time. While there are a lot of studies on mobile short video apps are distributed on the current situation, future trends and marketing strategies, while the research on mobile short video app user behavior is relatively lacking. Based on the UTAUT model, this paper fuses the individual innovation theory with the social impact theory to create a model of the user

participation behavior of the mobile short video app. It then combines the survey data to thoroughly explore its influencing factors, with the goal of offering some references for future researchers in this field.

In terms of practical contribution, this study encourages the optimization and upgrading of mobile short video apps and offers an objective framework for their current and future growth. The research presented in this paper, specifically, can help mobile short video app operators better understand and meet users' needs from a variety of angles, offer some suggestions for the ongoing updating and development of mobile short video apps, and better provide references for short video operators on how to retain users and maintain platform traffic. In terms of the future development of mobile short video apps, it can offer useful and effective advice for the platform's future business development so that appropriate steps can be taken to enhance the user experience and the effectiveness of content marketing. At the same time, the app's improvement also provides the opportunity for users to use it with greater enjoyment, contribute to the app's content with greater assurance, and meet their social demands in the online community, such as finding the information they need and meeting new friends.

## LIMITATIONS AND FUTURE RESEARCH

The study has some other restrictions as well. The majority of Xiaohongshu users are from post-90s generations, so they tend to be open to trying new things and find short video apps like Xiaohongshu to be relatively simple to use. Due to the post-1990s group characteristics and the virtual nature of the online community, social influence has not been confirmed. The only factor that significantly affects user participation behavior is facilitating conditions. In order to increase the generalization of the research model, the following study can use more adequate theoretical models and variables, and the sample selection will be closer to the present percentage of Xiaohongshu readers.

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