Research on the Uses and Gratifications of Tiktok (Douyin short video)

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Abstract: *With the advent of the 5G era, smart phones and communications network technology have progressed, and mobile short video of people's life can be made, Of the new tools of communication, at present, China's social short video industry has shown rapid development, and the most representative of the short video app is Douyin (international version: Tiktok). Under the background of Uses and Gratifications Theory, this study discusse the relationship between Douyin users' preference degree, use motivation, use satisfaction and attention intention. This study divides the content of Douyin video into 10 categories, selects the form of an online questionnaire survey, uses SPSS software to conduct quantitative analysis of 202 questionnaires after screening, and finally draws the following conclusions: 1   The content preference degree of Douyin short video (the high group and low group) is different in users' use motivation, users' satisfaction degree and users' attention intention. ALL results are within the range of statistical significance.(2) Douyin users' video content preference degree has a positive impact on users' use motivation, users' satisfaction degree, and users' attention intention. (3) Douyin users' motivation has a positive impact on users' satisfaction and user' attention intention. (4) Douyin users' satisfaction degree has a positive impact on users' attention intention. Based on the research results, we suggest that Douyin platform pushes videos according to users' preferences. In addition, as the preference degree has an impact on users' motivation, satisfaction degree and attention intention of using the platform, it is important that the platform's focus should to pay attention to the preference degree of users. Collecting users' preferences at the early stage of users' entering the platform is a good way to learn from, and doing a good job of big data collection and management in the later operation.*

Keywords: Douyin; Uses and Gratifications Theory; Users' preference degree; Use motivation and use satisfaction; Attention intention

1. Introduction

With 5G era is coming, the mobile Internet environment has been further development, great changes have taken place in people's life style, mobile is a short video as technology upgrade, the development of smart phones, mobile communication flow decreases, short video production cost is reduced, a short video on the mobile platform application to mature, at present, China's social short video industry rapid development, by 2019, in China, 78% of the population is application software user, While 65% of the users to install and use the two or more video class application software [1]. It can be said that short video applications now have a large number of loyal users, and have completely changed people's lifestyle, becoming an important form of social interaction. Douyin app also stands out from all kinds of short video social software. As of April 2018, it ranks the first in the app Store free ranking [2]. In May 2019, DAU has reached 300 million in China, with peak value of 310 million and advertising revenue of 2.6 billion, it is the most popular APP in China [3]. It wasn't just in China. In the summer of 2017, the international version of Tiktok was officially launched around the

world and received a lot of attention. As of June 2018, Tiktok's global monthly active population has exceeded 500 million, surpassing Twitter and about half of Instagram [4].

Facing the current situation of short video application, it is necessary to analyze users' behavior and psychology, and understand users' needs and behaviors through uses and gratifications theories.

By comparing the previous studies, it is found that most studies on Douyin in China focus on qualitative research, and most researchers simply analyze the communication content, communication mode and characteristics, and future development of Douyin short video app. Such as [4]This study introduces the operation characteristics of Douyin APP, the topicality of video transmission content, and the mode of transmission ("viral spread ") [3]This paper studies how Douyin satisfies users' needs: capturing fragmented time, young people's curiosity, grasping the public's thirst for knowledge, and the audience's satisfaction of expressing themselves. The advantages of Douyin platform are also analyzed. [5] analyzed the reasons for the rapid development of Douyin:simple operation, satisfying the psychology of the current audience, effectively displaying the audience's talent, and driving the e-commerce economy. Suggestions for Douyin's future development are put forward as follows: accurate user positioning, more three-dimensional communication, enhanced user stickiness, attention to entertainment elements of content, etc. Some studies use Uses and Gratifications Theory, which mostly just analyzes the use motivations of Douyin users, but no further studies are made.

The quantitative research of Douyin mainly focuses on users' use motivation, use satisfaction and focus intention, but rarely involves the relationship between users' preference for Douyin video content and use motivation, use satisfaction and focus intention. For example: [6] Research is to observe the purpose of the sustainability of the use of short video applications intended impact factors, research results indicate that: personal innovative use of beam has a certain impact on the application; The motivation for entertainment also has an impact on usage; Subjective norms have a positive effect on usage (subjective norms are influences given by family and friends, such as recommended usage).

Therefore, this study hopes to further make up for the deficiencies of previous studies by classifying the content of Douyin audio and video. This study will take Douyin APP as an example and Take Chinese users as the research object. Through questionnaire survey and combined with the analysis results of SPSS software, this study will investigate the relationship between users' preference degree for Douyin video content, use motivation, use satisfaction and attention intention. Thus, an objective analysis is given from the perspective of users and short video application platform. This research can make the platform better perfect programs and improve user experience. At the same time, it can also be a reference for other short video platforms.

2. Theoretical background and literature review

2.1 Uses and Gratifications Theory

In 1974, E. Katz put forward "use and satisfaction" and proposed that audiences use media to satisfy themselves. In the field of communication, scholars started to study how audiences use media [7].

However, Uses and Gratifications Theory is also formed after long-term development: first, in other media effect study, found that the mass media audience the motivation and the choice of mode of these studies, each a list of some specific content or the role of the media itself, that is to say, this period, the researchers pay more attention to "the media do to people?" After that, research focus based on social psychological models and audiences was generated, Uses and Gratifications Theory was gradually formed. Since the 1950s, researchers and psychologists conducted interdisciplinary studies and a large number of studies about the interaction between human beings and media. In the 1970s, researchers focused on the motivations of audiences and suggested that media utilizations were used to meet social and psychological needs, which led to criticism from other mass communication scholars. According to Uses and Gratifications Theory, its conceptual framework is vague, lacking precision and confusing interpretation. Audiences' views about media content are not taken into account. However, researchers such as Katz went on to conduct research, using a comprehensive social and psychological questionnaire, showing that audiences can be satisfied through access to mass media [8].

The theory of "Uses and Gratifications Theory" opens up a new way of research. Emphasizing "what people do with media" [9], Various studies using this theory have found it to be effective in understanding consumers' motivations and concerns for using a variety of media, such as radio, television and electronic of individuals in the use of mass media by focusing on how people use them. Katz et al. (1974) put forward the

basic hypothesis of the use and satisfaction method. First of all, the audience is positive, so the use of mass media is targeted. Second, audiences make positive choices based on their previous experiences with the media. Thirdly, the choice and use of media are purposeful and active. People take the initiative to meet their own needs and desires when choosing and using communication tools. Fourth, media compete with other sources of demand fulfillment. Finally, the value judgment of the cultural significance of mass communication should be suspended, while the audience orientation should be discussed according to their own situation [10]. That is to say, the previous research results mainly from the perspective of communicators or the media, examine whether the media has reached the expected purpose or what is the impact on the audience, while "Uses and Gratifications Theory " research from the angle of the audience, through the analysis of the audience's media contact motivation, and understand what needs these contacts meet the audience, to investigate the psychological and behavioral effects of mass communication brought to people.

In fact, since its emergence, this theory has become a powerful tool for studying media phenomenon. Many scholars have applied this theory to study mass media, video, film, Internet and other media [11]. Through sorting out the previous research, we selected the more representative ones and carried out the following sorting.

Table 1. previous research 1

Previous Research Contents	Reference
Uses and Gratifications Theory is the theoretical basis for making sophisticated software of mobile media clients in China. From the perspective of the audience, to be satisfied is the first condition for the audience to accept all kinds of media. However, Douyin app always keeps close contact with the audience, introduces the audience's opinions into the product creativity link, and improves the product according to the audience's opinions. In the process of use, these data will be collected after shooting, uploading, forwarding, "give a like" and commenting, and personalized content will be pushed to the audience to guide the audience into the next cycle and continuously give the audience satisfaction	Z.Q. Zhong (2020) [12]
Use Uses and Gratifications Theory as the theoretical basis and channel to further understand consumers' attitude and intention of using the Internet as a shopping channel. In order to reveal how consumers form their attitudes and intentions of online shopping, the research results show that consumers' willingness of online shopping is determined by their attitudes towards online shopping. In addition, the results emphasize that because consumers need an entertaining, informative, and non-stimulating online shopping experience, online shopping sites are creating an enabling shopping environment, such as providing great entertainment and information.	W.M. Lim, and D.H.Ting (2012) [10]
College study and redefined "Vlog/ASMR/Muk - bang", the video content is "to meet the requirements of video content", and from the use and satisfaction, motivation and demographic characteristics of the audience, the five directions and individualism are defined. The correlation between collectivism and audience satisfaction is investigated. The results of this quantitative study are: age, income level, and collectivism influence consumers' choice of video content types. It also found that motivations for watching video content include five factors: self-evaluation and promotion, sensory stimulation and relaxation, entertainment and escape, killing time, and following trends. Moreover, each use motive affects the audience's viewing satisfaction in various ways.	M.J.Kang, and C.H.Cho (2020) [13]

From the previous studies, we can see that Uses and Gratifications Theory is a powerful tool to study media phenomena. Therefore, Douyin app, the theme of this study, needs to use Uses and Gratifications Theory. In addition, from the previous study, combined with the research direction of this paper, we can see that the variation of this study focuses on Douyin users' preference degree for video content; Motivation of Douyin users; Satisfaction degree of Douyin users; Douyin users focus on four categories of intent. To this end, the following research contents are set out in this study:

Research question:
RQ1: According to different Douyin themes, how many types of preferences degree can be divided?
RQ2: What kinds of motivation can be classified into for Douyin users?

Assumptions:
H1: Douyin users' video content preference degree has a positive impact on users' use motivation.

H2: Douyin users' preference degree of video content has a positive impact on users' satisfaction degree.

H3: Douyin users' video content preference degree has a positive impact on users' attention intention.

H4: Douyin users' motivation has a positive impact on users' satisfaction.

H5: The motivation of Douyin users has a positive impact on the user's attention intention.

H6: Satisfaction of Douyin users has a positive impact on users' attention intention.

For a more intuitive understanding, the following figure is the model diagram of this research:
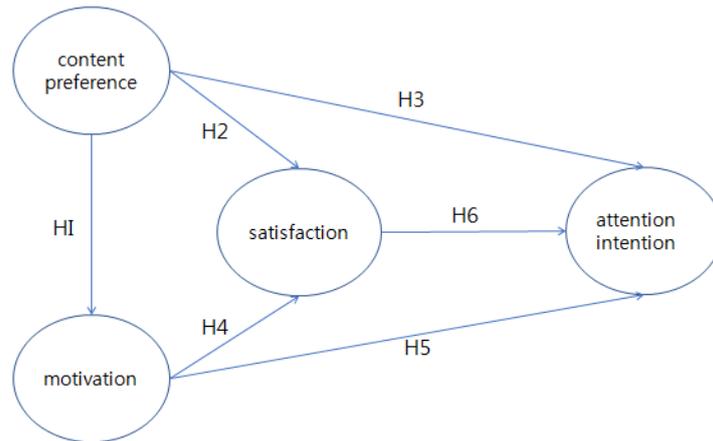

Figure 1. Research model

2.2 Short video application

Short video application, mainly because of the media environment has changed, newspapers, radio, television and other has the characteristics of information transfer unilaterally, but with the change of network environment, the progress of mobile communication, makes great changes have taken place in the media environment, people begin to use a variety of information tools and channels. However, with the development of smart phones, people are not satisfied with the information sharing method of text and photos, and gradually change to using video to express information.

Short video application is the most suitable for mobile communication application software. It provides users with video photography (30 seconds) and editing services, more than the general photography tools have convenient image editing and free modification and other functions. In addition, short video applications can connect to social networks and share videos made by users immediately after they are uploaded. As soon as it came out, it won the love of users. In this context, short video apps around the world began to emerge. Short video apps in the United States, such as Instagram, Facebook, vine, Snapchat, etc [6], and Chinese "MiaoPai", "MeiPai", "Kuaishou" and "Douyin" have also been recognized by the audience [14]. From the perspective of China, after market polishing and user primitive accumulation, the short video industry ushered in the spring of blooming flowers from 2015 to 2018. Each big platform finds accurate positioning in succession, quick hand advocate push grass root original culture, second hi take sports video as the direction of production. In the development process of the hundred schools of thought contend, Douyin develops the most rapidly [3].

2.3 Douyin short video application

Douyin App is A short video application of social software, on September 26, 2016, was originally called A - me short video music community, on December 10th, 2016, officially changed its name to "Douyin short video and replace" logo, through Douyin short video App, users can share their life, at the same time also can undertake social in the App, understand all kinds of weird stories. With The slogan "Douyin, record a better life", in 2016 and China website "iQIYI" exclusive cooperation, "The Rap of China" market share rising rapidly after fire, in March 2016 in The Chinese market research iresearch net (" Ai media consultant ") published The Chinese short video industry research report shows that Douyin App row after quickly and take The third state of [6]. During the Spring Festival in 2018, Douyin invited a number of traffic bigs to enter the platform and promoted the fermentation of "Haidilao New Food method" and other hot videos, attracting a large number of

new users. With good product experience, Douyin experienced explosive growth in less than 3 years [15], in May of 2019, China's domestic DAU around300 million, a peak of 310 million, advertising revenue of about 2.6 billion orso, Douyin became the most popular APP in China [3]. Of course, Douyin app also provides services overseas. In August 2017, the overseas version of Douyin, called Tiktok, launched. In the first quarter of 2018, it downloaded 45.8 million times from app stores worldwide, topping YouTube and Facebook. With about 150 million daily users, Tiktok enjoys huge popularity around the world [6].

According to previous studies, the most successful feature of Douyin is that the operation of Douyin short video App is very simple. Even if it is not a professional image editing program, users can easily create images by inserting background music or various special effects they want [6]. Douyin App is easy to operate and lowers the threshold for entry. When you first touch Douyin App, you can also get great fun from Douyin short video App, meet people's needs, and bring people a strong visual and auditory experience [5].

The second is Douyin's user experience. Y.R. Qian (2018) called Douyin a "viral spread", mainly through Douyin's popular music and various magic effects, as well as simple and easy-to-learn video content, such as dance or parody, to quickly form visual and auditory stimulation for the audience and attract users. And users will conduct a new round of imitation and re-production, so as to form a circular process. In addition, Douyin also has a strong social function: invite friends, comment and private message interaction, "give a like", forwarding and sharing. This interaction leads to more communication between the producer and the receiver, leading to the viral spread of Douyin [16]. S.R. Wang (2019) calls Douyin communication as immersive communication. Immersive communication refers to virtual reality becoming a communication medium that transcends popular media such as movies, TV and the Internet and enables communication across time and space. Users can not feel the physical environment they are in and have a strong sense of integration into the virtual space. When the user enters the Douyin app, system will directly to recommend a video, and as the default playback, basic no reaction time, the user will be attracted, then fall the next video, Douyin interface is very simple, all operations are simplified, slip, slide, or double click on the "give a like", simple design purpose and focus on the user's attention. So that users unconsciously immersed in the Douyin [17].

The quantitative research of Douyin mainly focuses on users' use motivation, use satisfaction and focus intention, but rarely involves the relationship between users' preference for Douyin video content and use motivation, use satisfaction and focus intention. For example: [6] Research is to observe the purpose of the sustainability of the use of short video applications intended impact factors, research results indicate that: personal innovative use of beam has a certain impact on the application; The motivation for entertainment also has an impact on usage; Subjective norms have a positive effect on usage (subjective norms are influences given by family and friends, such as recommended usage).[18] Study attempts to find out from the perspective of the user satisfaction and continued use of short video applications intentions, the study found that in six use of motivation, the pursuit of entertainment, self-efficacy and social impact has a positive influence on perceived availability, and self-expression has a negative effect on perceived ease of use. That is, users who present themselves in a short video application find it difficult to use the application. In addition, people who use short video apps to enjoy entertainment, get information or be influenced by those around them highly appreciate the usefulness of the app. Furthermore, the usability and usability of short videos have a positive impact on satisfaction. Feelings of usefulness and satisfaction had a positive effect on the intention to continue using.[19] Studied Chinese users of Tiktok to understand how users' satisfaction with the features of the video application would affect the application's continuous use intention. In addition, which factors in the features of video app have a greater impact on the intention of continuous use is taken into account. Informative, entertaining, aesthetic, and empathic all had a positive impact on the intent to continue using an application, and commonality had the highest impact.

3. Materials and Methods

3.1 Research design

In order to achieve the research purpose, this study will adopt the research method combining literature research and empirical research. Firstly, through literature research, the definition and current development status of short video application will be clarified and the application of Douyin short video will be introduced in detail. Explain in detail the concept of Uses and Gratifications Theory. Secondly, empirical research will develop a questionnaire based on literature research, and then issue questionnaires to Chinese Douyin users by

using the special platform of Internet questionnaire survey, "Questionnaire Star", and finally conduct empirical analysis by using SPSS.

3.2 Selection of variances

3.2.1 Survey Objects and Material Collection

Table 2. previous research 2

Previous Research Contents	Reference
151 smart phone users, has carried on the questionnaire survey, through the network in the recovery of 151 questionnaires, 86 men (57%) and 65women (43%). The topics also covered are age, educational background (High school, University, Postgraduate, PHD), occupation (corporate staff in general enterprises and institutions, university students, civil servants and teachers, etc.) and income level	S.Y. Han, et al. (2011) [20]
There were 81males (38.76%) and 128 females (61.24%). In terms of age distribution, 127 were in their 20s (30.77%), 51 were in their 30s (24.4%) and 3 were over 40 (4.44%).	F. Zhao (2018) [21]
269 valid responses to be used in the final analysis. According to the demographic characteristics of the respondents, 111 males (41.3%) and 158 females (58.7%) were surveyed by gender, age and educational background. The mean age was 26.02 years (standard deviation =4.536 years), with a minimum of 12 years and a maximum of 50 years. A total of 229participants were in their 20s, accounting for 85.1% of the total participants.	Q.Z. XU (2018) [18]
What is your gender? What's your age? What is your educational background? What is your occupation?	Y.J. Li (2019) [22]

To sum up　it can be seen that the age of the participants in the questionnaire is mainly in their 20s. Therefore, it can be seen from the above that after the questionnaire is issued, the number of valid questionnaires collected is 200-300, and the age group participating in the sample survey is basically distributed in 20-30 years old, regardless of occupation and education background. Therefore, this research plans to use The professional questionnaire platform in China - WenJuanXing to conduct online questionnaire survey, and issue 300 questionnaires. The target population of the sample selected is 15-35 years old Chinese people. There is no restriction on occupation and education. The questions of this study are: What is your gender? What's your age? What is your educational background? What is your occupation? How long do you use Douyin each time?

3.2.2 Douyin content and theme classification and audience preference degree

In order to understand the audience's preference degree for Douyin video content, we first need to classify the current Douyin video content.

Table 3. previous research 2

Previous Research Contents	Reference
Selected the 200 short video, and "give a like" more than ten thousand, comments on the video content of more than one thousand classified as sample, is divided into four types: to see a better life, fun, and life skills. Among them, the videos of the good life category account for about 40%, the videos of the fun and interesting category account for about 32%, the videos of the curiosity category account for about 23%, and the rest are videos of the skills category. The more popular types can be further subdivided into emotions, high appearance, cute pets, positive energy, life skills and other types.	N. Li (2019) [23]
Analyzed the video content of Douyin on the basis of 600 short video samples collected in the morning, afternoon and evening of 20 days. The video content of Douyin was statistically classified as appearance level, technology flow, music comedy, life and teaching. Among them, high face score accounted for 22.7%, technical stream 12.7%, music and funny music 35.3%, life type 19.2%, and teaching type 10.1%.	Y.J.Li (2019) [22]
Use Douyin database extract 300 video as sample data research, according to the mechanism of "give a like", sharing mechanism, reviews, and the characteristics of the video content classification, selection and "give a like", comments, sharing mechanism of three kinds of	L.Y. Yu (2019) [24]

interactive video type as sample, divided into funny video, KOL video Creative video, positive energy video.	

To sum up, in this study, we can divide Douyin short video content into 10 categories. In order to further understand which kind of video content is more popular with users, the 7-point measurement method is adopted to conduct a questionnaire survey to investigate the audience's preference degree for content.

Table 4. previous research 2

Categories based on video content	Measurement problems
1. Emotion category	*1. How do you feel about the emotional video in Douyin*
2. Music category	*2. How do you feel about the content of music videos in Douyin*
3. Funny fun category,	*3. How do you feel about the funny and funny videos in Douyin*
4. Eating category	*4. How do you feel about the content of eating videos in Douyin*
5. High appearance category	*5. How do you feel about the content of the video with high face score in Douyin*
6. Cute pet category	*6. How do you feel about the content of cute pet videos in Douyin*
7. Positive energy category	*7. How do you feel about the positive energy videos in Douyin*
8. Life skills category	*8. How do you feel about the content of the life skills video in Douyin*
9. Teaching category	*9. How do you feel about the content of the teaching video in Douyin*
10. Advertisement web celebrity with goods category	*10. How do you feel about the content of the web celebrity selling videos in Douyin.*

3.2.3 Motivation of Douyin users

The so-called "use motivation" generally refers to the user in order to meet their own expectations and needs. It can be defined as what to use for purposes, as well as the psychological needs and social needs of users to use media [18].

In this study, user motivation can be defined as: the purpose of Douyin users to use this application, that is, users use Douyin to meet their diversified needs.

Based on the results of previous studies, this study summarizes the current use motivation factors of Douyin, which can be roughly divided into emotional needs, cognitive needs, social needs, entertainment needs and business needs.

Table 5. Douyin user motivation measurement project

Use of motivation	Measuring project	Reference
Emotional needs: Self-expression. Satisfy individual expressive desire. Achieve emotional resonance, synesthesia.	*1. I can express myself and be recognized by others in Douyin.* *2. I can identify with some content in the Douyin video when I watch it.* *3. I can record my life in Douyin.*	Q.Z. XU (2018) [18]
Cognitive needs: to learn, to know new knowledge, to be curious.	*1. I can understand the knowledge that is not often talked about in Douyin.* *2. I can learn life tips from Douyin.* *3. I can learn knowledge what I want to know and what I am interested in Douyin.*	Q.Z. XU (2018) [18]
Social needs: There are some hot topics on Douyin that can promote social interaction	*1. I can know about hot topics and participate in Douyin, discuss with friends.* *2. I can forward, comment,"give a like" videos which I like, and interact with others in Douyin.* *3. I can upload my own video on Douyin and share it with other social software.*	F.Zhao (2018) [21]
Entertainment needs: kill time, change mood, eliminate stress	*1. Using Douyin can help me change my mood, relax and relieve stress/anxiety/tension.* *2 Douyin can make me pass the boring time.* *3. Using Douyin makes me feel happy.*	Y.R. SUN (2019) [25]

Business needs: Douyin can provide a marketing platform	1. *I can buy goods on Douyin* 2. *I can sell my products on Douyin.* 3. *I can use Douyin fans for advertising, sponsorship and so on.*	Y.J.Li (2019) [22]

The relationship between audience preference degree and motivation. In the research of Y.J. Han, J.Y. Ha 2019 through quantitative research, three types of factors (including media use motivation, users' personal preference and personal broadcast perception characteristics) were respectively analyzed by hierarchical regression in 6 content fields (news and information, hobbies, life information, Beauty and fashion, game and entertainment content). To understand how it affects single-person broadcast viewing in six content genres, the results of analysis show that all three factor groups have statistically significant effects on single-person broadcast viewing in six domains. In addition, the detailed variables affecting single broadcast viewing are also different in the six content areas, because the factors such as detailed motivation of use, personal inclination, and recognition of the reform characteristics of single broadcast vary with the content areas. Based on the two theories of uses and gratifications and communication of innovation, this study attempts to identify three main variables, namely, media use motivation, personal preference and perceived characteristics of personal broadcasting, as factors influencing personal broadcasting use [26].

The results show that three variables have statistically significant effects on personal broadcast usage in six different content types.

It's clear that "personal preference" has an impact on how users use media. And the greater the tendency, the greater the use of media. It has a positive impact.

In X.L. Wang (2019) the first study, analyses the reasons why the user to use Douyin, among them, the thought "can quickly find interested video" the most users, as high as 50%, followed by the rich ness of music, simple to use, quick sharing, etc., can prove that the user preference degree can affect the use of user motivation. And it's very important [14].

Therefore, we can know that there is an interactive relationship between users' preference degree for Douyin video content and motivation of Douyin users.

3.2.4 Use satisfaction

The concept of satisfaction in the previous research is described as follows: "satisfaction" means "enough to excess", which means the customer's psychological perception of a particular good or service. Customer satisfaction refers to the satisfaction of an enterprise's products or services, which can bring profits to the enterprise, and most operators hope to improve customer satisfaction. On the other hand, understanding customer satisfaction can play an empirical role in the products and services provided by the enterprise [19].

In the previous research, Q.Z. Xu (2018) listed many viewpoint definitions in the previous research. Hunt (1977) defined satisfaction as the result of users' experience better than expected. Kotler (Kotler, 2000) defined it as a feeling of satisfaction or disappointment with the technology or service. This feeling is caused by the user's expectation before using the product or service compared with the perception after actually using the product or service. Among the studies on satisfaction, the most representative one is the "Expectation Disconfirmation-Theory" proposed by Oliver (1980). If the product is better than expected, the user is satisfied; if it is less than expected, the user is dissatisfied. Oliver divides customer satisfaction into three categories: negative disconfirmation of a product or service; Consider simple Confirmation; Better than expected (Positive disconfirmation). Satisfaction refers to the psychological state generated during the use of the user, which is an antecedent variable that has a strong influence on the continuous use intention of the relevant service [18]. Therefore, in this paper, use satisfaction refers to the psychological changes of users in the process of using Douyin.

The use satisfaction test in this study refers to the measurement items in the study of preemption: "I am satisfied with the functions of short video application such as sharing and editing.", " I am satisfied with the information provided by the short video app.", "I'm happy with my experience with short video apps." [18] Three questions were used.

At the same time, this research refers to the evaluation of audience satisfaction in M.J. Kang and C.H. Cho (2020): "Enjoy the content of Vlog/ASMR/ muk-bang", "only satisfied with the content of Vlog/ASMR/ muk-bang", "Vlog/ASMR/ muk-bang makes me want to watch", "wish to watch more content of Vlog/ASMR/ muk-bang", "want to recommend Vlog/ASMR/ muk-bang" [13].

The satisfaction evaluation question of this study is set as: 1. The use of Douyin (application sharing, editing and other functions) makes me satisfied. 2. Douyin's video content satisfies me. 3. I am satisfied with the information provided by Douyin.

3.2.5 Attention intention

As for the understanding of intention, Y.R. Sun (2019) [25] explained in his research that intention is to "show the motivation of the person from the perspective of striving to carry out actions and consciously planning". Therefore, the concise definition of purchase intention is: purchase intention is to want to buy goods, the conscious plan of the individual. So in this study, attention intention is a kind of social interaction, which refers to the conscious behavior of individuals who want to perform attention.

In the previous study, Y.R. Sun (2019) [25] set the evaluation of purchase intention as: 1.After watching the advertisement of Douyin short video, I have the idea of buying the product in the advertisement. 2.After watching the advertisement of Douyin short video, I have a plan to buy the product in the advertisement. 3.Among similar products, I will give priority to the products advertised in Douyin short video.

Based on this, we modify the evaluation question of concern intention and set it as: 1.When using Douyin, I have the idea of shooting Douyin and editing and uploading it. 2.When using Douyin I will "give a like" and press the code to follow.   3.In similar short video applications, I will give priority to Douyin short video.

4. Results

4.1 Characteristics of specimens

The questionnaire will be issued from May 14, 2020 to May 28, 2020. After a total of two weeks, and 304questionnaires were obtained. The untrusted data within 100 seconds were deleted, and 202 pieces of data were finally obtained.   n=202

Table 6. *Characteristics of specimens*

		Frequency	**The percentage %**
Gender	*Male*	61	30.2
	Female	141	69.8
Age	*Under the age of 18,*	1	0.5
	At the age of 18 to 24	109	53.96
	25 to 30	67	33.17
	31-35 years old	8	3.96
	More than 35 years old	17	8.42
Record of formal schooling	*Under the high school*	14	6.93
	College	21	10.4
	Undergraduate course	142	70.3
	Master	22	10.89
	Doctor	3	1.49
Professional	*Students*	112	55.45
	General office staff	53	26.24
	Civil servants	12	5.94
	The private owner	11	5.45
	Housewife	4	1.98
	Unemployed	10	4.95
Duration of Douyin use	*Within half an hour*	77	38.12
	Half an hour to an hour	81	40.1
	An hour to two hours	23	11.39
	More than two hours	21	10.4
Total		202	100

4.2 Answer the research questions through factor analysis

Research Question 1: According to different Douyin themes, how many types of preferences degree can be divided?

Table 7. *Preference degree types of Douyin users after factor analysis*

Factors	Questionnaire	Factor loading	Communality	Eigen value	Crobach's alpha	KMO
Information knowledge acquisition	*8. How do you feel about the content of the life skills video in Douyin*	.89	27.42	2.19	.81	.75
	9. How do you feel about the content of the teaching video in Douyin	.83				
	7. How do you feel about the positive energy videos in Douyin	.78				
Leisure and Entertainment	*1. How do you feel about the emotional video in Douyin*	.76	24.50	1.96	.65	
	2. How do you feel about the content of music videos in Douyin	.75				
	3. How do you feel about the funny and funny videos in Douyin	.71				
Visual appreciation	*6. How do you feel about the content of cute pet videos in Douyin*	.88	16.23	1.30	.62	
	5. How do you feel about the content of the video with high face score in Douyin	.67				

Therefore, through factor analysis, the factors were extracted and rotated using Varimax method, audiences' preferences for different themes of Douyin can be divided into 3 categories. According to their characteristics, they are named as information knowledge acquisition category, leisure entertainment category and visual appreciation category.

Research question 2: What kinds of motivation can be classified into for Douyin users?

Table 8. *Preference degree types of Douyin users after factor analysis*

Factors	Questionnaire	Factor loading	Communality	Eigen value	Crobach's alpha	KMO
Leisure and social needs	*10. Using Douyin can help me change my mood, relax and relieve stress/anxiety/tension.*	.82	26.65	3.73	.89	.88
	11 Douyin can make me pass the boring time.	.81				
	12. Using Douyin makes me feel happy.	.78				
	9. I can upload my own video on Douyin and share it with other social software.	.64				
	8. I can forward, comment, "give a like" videos I like, and interact with others in Douyin.	.64				
	7. I can know about hot topics and participate in Douyin, discuss with friends.	.59				
Information acquisition needs	*5. I can learn life tips from Douyin*	.90	25.82	3.62	.87	
	4. I can understand the knowledge that is not often talked about in Douyin.	.83				
	6. I can learn knowledge what I want to know and what I am interested in Douyin.	.81				
	2. I can identify with some content in the Douyin video when I watch it.	.54				

	3. I can record my life in Douyin	.52			
Business needs	*14. I can sell my products on Douyin*	.86	16.71	2.34	.80
	13. I can buy goods on Douyin	.83			
	15 I can use Douyin fans for advertising, sponsorship and so on.	.80			

Therefore, through factor analysis, the factors were extracted and rotated using Varimax method, Douyin users' motivations can be divided into 3 categories. According to their characteristics, they are named as leisure and social needs, information acquisition needs and business needs.

4.3 Correlation analysis

In order to study the hypothesis proposed in this study, the correlation analysis was carried out on Douyin users' preference degree, use motivation, use satisfaction and attention intention. The results are as follows:

Table 9. *Correlation analysis*

Variational information	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Information knowledge acquisition	1							
Leisure entertainment	.35**	1						
Visual appreciation	.28**	.29**	1					
Leisure and social needs	.34**	.62**	.35**	1				
Information acquisition needs	.42**	.49**	.23**	.71**	1			
Business needs	.05	.25**	.23**	.28**	.27**	1		
Use satisfaction	.25 **	.51**	.34**	.72**	.62**	.38**	1	
attention intention	.29**	.52**	.19**	.73**	.57**	.39**	.70**	1

When Pearson correlation coefficient is between 0.2-0.4, there is a low correlation. There is a relatively high correlation between 0.4-0.7, a high correlation between 0.7-0.9, and an ultra-high correlation between 0.9 and 0.9. Therefore, except for information knowledge acquisition and business needs, there is basically no correlation. There is basically no correlation between visual appreciation and attention intention, except that there is a correlation between all the others.

4.4 Independent sample T-test

In order to explore the degree of preference of the same type, whether there are differences in use motivation, use satisfaction and attention intention, this study divided preferences: information and knowledge acquisition, leisure and entertainment, and visual appreciation into high and low groups, conducted independent sample T-test, and obtained the following results:

Table 10. *Independent sample T test 1*

	High and low group	**N**	**M**	**SD**	**SS**	**F**	**Sig**	**T**
Leisure and social needs	*Information and knowledge acquisition high group*	88	4.07	1.19	.95	.00	.00	-4.52
	Information and knowledge acquisition low group	114	4.84	1.19				
Information acquisition needs	*Information and knowledge acquisition high class group*	88	3.81	1.04	.28	1.16	.00	-5.86
	Information and knowledge acquisition low class group	114	4.75	1.18				

Business needs	*Information and knowledge acquisition high class group*	88	2.89	1.23	.11	2.58	.89	-.14
	Information and knowledge acquisition low class group	114	2.91	1.35				
Use satisfaction	*Information and knowledge acquisition high class group*	88	3.75	1.12	.58	.31	.00	-3.60
	Information and knowledge acquisition low class group	114	4.34	1.20				
Attention intention	*Information and knowledge acquisition high class group*	88	3.88	1.15	.11	2.59	.00	-3.44
	Information and knowledge acquisition low class group	114	4.51	1.39				

Preference degree: Information knowledge acquisition group can be divided into high information knowledge acquisition group and low information knowledge acquisition group according to the average.

Through independent sample t-test, as you can see, T value in addition to the use of business needs motivation, are greater than or equal to plus or minus 1.96, sig value in addition to the use of business needs motivation, are less than 0.05. Therefore, the groups with high and low preferences degree for information and knowledge acquisition have different influences on the use motivation, use satisfaction and attention intention of leisure and social contact needs, information acquisition needs.

Among the motivations of business needs, t value is more than - 1.96, sig value is 0.887, more than 0.05, so there is no difference in the motivations of business needs between the high group and the low group.

Table 11. *Independent sample T test 2*

	High and low group	**N**	**M**	**SD**	**SS**	**F**	**Sig**	**T**
Leisure and social needs	*Leisure entertainment high class group*	83	3.88	1.25	.045	4.07	.00	-6.29
	Leisure entertainment low class group	119	4.94	1.05				
Information acquisition needs	*Leisure entertainment high class group*	83	3.79	1.29	.02	5.56	.00	-5.55
	Leisure entertainment low class group	119	4.72	.99				
Business needs	*Leisure entertainment high class group*	83	2.63	1.26	.96	.00	.01	-2.51
	Leisure entertainment low class group	119	3.09	1.30				
Use satisfaction	*Leisure entertainment high class group*	83	3.59	1.17	.51	.43	.00	-5.22
	Leisure entertainment low class group	119	4 43	1.10				
Attention intention	*Leisure entertainment high class group*	83	3.69	1.33	.12	2.46	.00	-5.26
	Leisure entertainment low class group	119	4.62	1.18				

Preference degree: leisure entertainment group according to the average can be divided into: high leisure entertainment group, low leisure entertainment group, by independent samples T test, it can be seen that the Leisure entertainment high group and low group have different influences on use motivation (leisure and social needs, information acquisition needs and business needs), use satisfaction, and attention intention.

Table 12. *Independent sample T test 3*

	High and low group	N	M	SD	SS	F	Sig	T
Leisure and social needs	*Visual appreciation high class group*	104	4.11	1.21	.66	.20	.00	-4.91
	Visual appreciation low class group	98	4.92	1.15				
Information acquisition needs	*Visual appreciation high class group*	104	4.04	1.22	.63	.23	.00	-3.76
	Visual appreciation low class group	98	4.66	1.12				
Business needs	*Visual appreciation high class group*	104	2.69	1.21	.35	.87	.01	-2.42
	Visual appreciation low class group	98	3.13	1.35				
Use satisfaction	*Visual appreciation high class group*	104	3.76	1.17	.99	.00	.00	-4.14
	Visual appreciation low class group	98	4.43	1.14				
Attention intention	*Visual appreciation high class group*	104	3.99	1.26	.79	.07	.01	-.82
	Visual appreciation low class group	98	4.50	1.34				

Preference degree: visual appreciation class group according to the average can be divided into: high visual appreciation class group and low visual appreciation class group, through independent sample t-test, as you can see, the visual appreciation high group and low group have different influences on use motivation (leisure and social needs, Information acquisition needs, business needs), use satisfaction, and attention intention.

4.5 Hypothesis Verification

Regression analysis was used to conduct hypothesis testing, and the results were as follows:

Hypothesis 1: Douyin users' video content preference degree has a positive impact on users' use motivation.

Table13. *regression analysis 1*

	Use motivation											
Factors	**Leisure and social needs**				**Information acquisition needs**				**Business needs**			
	B	**t**	**VIF**	**P**	**B**	**t**	**VIF**	**p**	**B**	**t**	**VIF**	**p**
Information knowledge acquisition	.11	1.9	1.19	.06	.27	4.26	1.19	.00	-0.08	-1.05	1.19	.29
Leisure entertainment	.53	8.93	1.19	.00	.38	5.88	1.19	.00	.23	3.06	1.19	.00
Visual appreciation	.17	2.86	1.14	.01	.05	.74	1.14	.46	.19	2.59	1.14	.01
R^2	.42				.31				.10			

T is greater than ±1.96, both are established, significance P is less than 0.05, preference degree of information knowledge acquisition class and leisure entertainment class is valid, tolerance is more than 0.1, VIF is less than 10, beta is positive, so the preference degree of information knowledge acquisition and leisure entertainment has a positive influence on the leisure and social needs of motivation. T is greater than ±1.96, the preference degree of information knowledge acquisition and leisure entertainment is established, significance P is less than 0.05, preference degree of information knowledge acquisition and leisure entertainment is established, tolerance is more than 0.1, VIF is less than 10, beta is positive, so the preference degree of information knowledge acquisition and leisure entertainment has a positive influence on the information acquisition needs of motivation. T is greater than ±1.96, preference degree of leisure entertainment and visual

appreciation is established, significance P is less than 0.05, preference degree of leisure entertainment is established, tolerance is more than 0.1, VIF is less than 10, beta is positive, so the degree of preference for leisure and entertainment has a positive impact on the business needs of motivation.

Hypothesis 2: Douyin users' preference degree of video content has a positive impact on users' satisfaction degree.

Table 14. *regression analysis 2*

Factors	Use satisfaction			
	B	t	VIF	p
Information knowledge acquisition	.04	.63	1.19	.53
Leisure entertainment	.44	6.75	1.19	.00
Visual appreciation	.21	3.25	1.14	.00
R^2	.30			

T is greater than ±1.96, the preference degree of information knowledge acquisition class, leisure entertainment class and visual appreciation class is established, significance P is less than 0.05, leisure entertainment class and visual appreciation class are established, tolerance is more than 0.1, VIF is less than 10, beta is positive, so therefore, the degree of preference for Leisure entertainment and visual appreciation has a positive influence on use satisfaction.

Hypothesis 3: Douyin users' video content preference degree has a positive impact on users' attention intention.

Table 15. *regression analysis 3*

Factors	Attention intention			
	B	t	VIF	p
Information knowledge acquisition	.12	1.81	1.19	.07
Leisure entertainment	.47	7.19	1.19	.00
Visual appreciation	.02	.31	1.14	.76
R^2	.28			

T is greater than ±1.96, significance P is less than 0.05, preference for leisure and entertainment is established, tolerance is more than 0.1, VIF is less than 10, beta is positive, so leisure entertainment have a positive effect on attention intention.

Hypothesis 4: Douyin users' motivation has a positive impact on users' satisfaction.

Table 16. *regression analysis 4*

Factors	Use satisfaction			
	B	t	VIF	p
Leisure and social needs	.53	7.91	2.07	.00
Information acquisition needs	.19	2.91	2.05	.00
Business needs	.18	3.62	1.10	.00
R^2	.57			

T is greater than ±1.96, the use motivation of leisure and social demand, information acquisition demand and business demand is established, significance P is less than 0.05, the use motivation of leisure and social

demand, information acquisition demand and business demand are established, tolerance is more than 0.1, VIF is less than 10, beta is positive, therefore, the use motivation of leisure and social needs, information acquisition needs and business needs has a positive impact on use satisfaction.

Hypothesis 5: The motivation of Douyin users has a positive impact on the user's attention intention.

Table 17. *regression analysis 5*

Factors	Attention intention			
	B	**t**	**VIF**	**p**
Leisure and social needs	.63	9.38	2.07	.00
Information acquisition needs	.07	1.07	2.05	.29
Business needs	.19	3.92	1.10	.00
R^2	.57			

T is greater than ±1.96, the use motivation of leisure and social needs and business needs is established, significance P is less than 0.05, the use motivation of leisure and social needs and business needs is established, tolerance is more than 0.1, VIF is less than 10, beta is positive, therefore, the use motivation of leisure and social needs and business needs has a positive impact on attention intention.

Hypothesis 6: Satisfaction of Douyin users has a positive impact on users' attention intention.

Table 18. *regression analysis 6*

Factors	Attention intention			
	B	**t**	**VIF**	**p**
Use satisfaction	.70	13.78	1.00	.00
R^2	.49			

T is greater than ±1.96, use satisfaction is valid, significance P is less than 0.05, tolerance is more than 0.1, VIF is less than 10, beta is positive. Therefore, use satisfaction has a positive effect on attention intention

5. Discussion and Conclusions

Firstly, through factor analysis, correlation analysis, independent sample T test and regression analysis, the research issues of this study were completed. The research divided audiences' preferences for different themes of Douyin into three categories: Information knowledge acquisition, Leisure entertainment, and visual appreciation. The motivation of Douyin users was divided into three categories: leisure and social needs, information acquisition needs and business needs.

Secondly, after classifying information and knowledge acquisition, leisure entertainment, and visual appreciation into high and low class groups, it is found that the high and low groups of information knowledge acquisition have different influences on leisure and social needs, information acquisition needs, use satisfaction, and attention intention. No differential effect on business needs. High and low leisure entertainment groups have different influences on leisure and social needs, information acquisition, business needs, use satisfaction, and attention intention. The visual appreciation high and low group has different influences on leisure and social needs, information acquisition needs, business needs, use satisfaction, and attention intention.

Finally, all the six hypotheses are valid. 1: Douyin users' video content preference degree has a positive impact on users' use motivation. Information and knowledge acquisition and leisure entertainment have a positive impact on leisure and social needs and information acquisition needs. Leisure entertainment has a positive impact on business needs. 2. Douyin users' preference degree of video content has a positive impact on users' satisfaction degree. In addition, information knowledge acquisition and leisure entertainment have a positive impact on leisure social needs and information acquisition needs. 3. Douyin users' video content preference degree has a positive impact on users' attention intention, and leisure entertainment has a positive impact on users' attention intention. 4. Douyin users' motivation has a positive impact on users' satisfaction, and leisure social needs, information acquisition needs and business needs have a positive impact on use satisfaction. 5. The motivation of Douyin users has a positive impact on the user's attention intention, and leisure social

needs and business needs have a positive impact on attention intention. 6. Satisfaction of Douyin users has a positive impact on users' attention intention.

To sum up, Douyin's user preference has a positive impact on use motivation, use satisfaction and attention intention. Therefore, Douyin company needs to push video content according to users' preference in management. This study finds that when users see videos of information knowledge acquisition and leisure entertainment, they will be motivated to use them for leisure social contact and information acquisition, and when they watch videos of leisure and entertainment, they will also be motivated to use them for business. Video content of leisure entertainment and visual appreciation will improve users' satisfaction with Douyin. The video content of leisure and entertainment is more likely to attract the attention of users "give a like". When users' leisure and social needs and business needs are met, users will also pay attention to them.

When users' leisure and social needs, information acquisition needs and business needs are met, the satisfaction degree of Douyin will be improved. Therefore, attention should be paid to the quality of Douyin's video content. In terms of business needs, Douyin currently has the wallet function, which is divided in detail into live streaming income, creative income and red envelope income, etc. Bank Cards can be bound, and minor refund and other services are set very humanized. And from Douyin app interface is not hard to find, Douyin as China is now developing the best short video enterprise, is also very pay attention to the use of user satisfaction, in the feedback and help the screen, there is a very comprehensive self-service, problem solving, and using the strategy, the user can find a solution for your problem, is worth learning other platforms.

Deficiencies and improvement directions of this study: This study also needs to consider the negative effects of Douyin on the audience, including excessive reliance on media and the decline of social skills in real life. The entertainment to death; Internet violence and other aspects to discuss, in the questionnaire setting, only one question was involved in the use frequency of Douyin, which was not enough for analysis. Therefore, it should be studied in this direction in future studies.

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