

## *Original Paper*

# Research on TikTok APP Based on User-Centric Theory

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Received: January 14, 2019

Accepted: January 21, 2019

Online Published: February 3, 2019

doi:10.22158/asir.v3n1p28

URL: <http://dx.doi.org/10.22158/asir.v3n1p28>

### **Abstract**

*TikTok App, as a music short video social platform, has become a popular style in short video field in 2018, dues to its huge user base and vast amount of content. From the perspective of user centric theory, TikTok optimizes the user experience in the aspects of UCD design, content production and form innovation, personalized service and so on. It satisfies the user's needs and achieves the user's goals. In terms of user experience, TikTok has optimized the experience in terms of interface design, human-computer interactive, UGC and PGC and OGC content production model, content micro narrative modes and recommended algorithm technology based on big data, which enhanced user loyalty.*

### **Keywords**

*TikTok app, user-centric theory, user experience, content production, Recommended algorithm*

## **1. Introduction**

TikTok has been online since September 2016. In 2018, the number of daily active users in China has already broken through 150 million, and the number of active users is more than 300 million per month. The overseas version of TikTok has also become the most frequently downloaded of Apple app store in the world, with more than 500 million active users every month in the world. It can be said that people across china entered the TikTok era. TikTok is the leader in the field of music short video social platform, which focus on vertical reading. TikTok base on the perspective of user centric theory, can optimize the user experience, meet the needs of users, achieve the goal of users, and attract users in the aspects of interface interaction design, content production and form innovation, recommended algorithm technology based on big data. TikTok can help their users create value in order to keep the user.

### *1.1 The User-Centric Theory*

In the new media age, the relationship between the media and the audience has changed from the center

of the communicator to the center of the user, and the audience has changed from passive acceptance to active content production and sharing. Therefore, some scholars put forward the word “user” to replace the word “audience”. “user” is the active user of information, the participant of communication, the unity of user and consumer, and is individualized rather than typed. “User-centric” theory is to construct the user relationship as the center, take the user demand as the guide, take the user experience as the core, regard the user experience as the starting point and the inspection line of the content production, as an important part of media product development and production. “User-centered” theory is that TikTok enhance the deep interaction with the user, reconstructs the user connection, combine different scenarios to meet the user’s information interaction and expression needs, provide customized services, achieve resource aggregation and value creation. That needs to keep user and focus on the market value of content.

The design of TikTok APP is based on user experience. The interface design and interactive design are consistent with the positioning and taste of its product users. The content production model is combined with the UGC and PGC and OGC mode that can generate mass content to meet the diverse needs of users, while the specialized and vertical content meets the individual needs of users. Micro narrative method innovate the presentation of short video content and optimizes the user experience. Its content production and channel distribution relies on big data mining technology and recommended algorithm of artificial intelligence that push accurate information and provide customized services to user. While it optimize the user experience, also creating information cocoons. TikTok excessively pays attention to the user’s experience and the creation of commercial value, also leads to the lack of social value guidance. The content has the disadvantages of vulgarization and homogenization and so on. How to take the social responsibility of TikTok, as a social communication platform, it is worth reflection.

## **2. UCD Design to Optimize User Experience**

The user-centered design (UCD) strives to focus on the user experience, needs and goals. It also help users achieve goals, and create value. User experience design includes user interface design (UI) and interactive design (ID), which caters to young people’s fashion, novelty and quirky features. The user experience is optimized from the perspective of physiology and psychology. The interaction design makes the process of human-computer interaction more in line with people’s psychological expectations and established goals through systematic design. The effective interaction method is used to achieve the goal of high availability and good user experience. In 2006, Verplank, the pioneer of Human-computer interaction, proposed that the key of human-computer interaction, proposed that the key of human-computer interaction “user-centric” is the user experience, emphasizing the human’s main position in the interaction and the ease of learning the system. It shows in three aspects: feeling, know, and do. Its goals can be analyzed from the perspectives of usability and user experience, focusing on people-oriented user needs. TikTok’s interactive interface design is order to highlight

product functions and advantages. It can facilitate users to use them in different scenarios, provide a wonderful initial experience for new users. It enables them to become familiar with the product as soon as possible. The design make that users can operate by simply following intuitions. At the same time, some smart features such as live broadcast are provided to attract experienced users.

### *2.1 User Experience Theory*

The concept of user experience (UE/UX) was proposed by user experience designer Donald Norman in the mid-1990s. It is defined as the whole feeling of the user before, during and after the use of a product or system. Including emotions, beliefs, preferences, perceptions, physical and psychological responses, behaviors and accomplishments and other aspects. The “user centric” concept is reflected in the three dimensions of sensory, interaction and emotion when the user experiences TikTok. The fun, suspense, and novelty shown by TikTok are all emotional feedback. The user enjoys a pleasant and comfortable aesthetic experience through a variety of channel senses, such as hearing and vision. The form of the product is an ethical experience that represents the taste, status, and wealth of the user.

The slogan of TikTok is “Records good Life”. In terms of content presentation mode, the vertical screen interface is more in line with the user’s mobile phone reading habits, creating an interactive participation of the “presence”. In terms of content production, TikTok’s content production model is combined with the UGC and PGC and OGC mode, and also sets hot and challenging topics to increase content production and viscosity of user. According to statistics, the short video released by the ordinary person through platform, accounted for about 49.1%. Theme of 16% is users to participate in challenges topic of the platform. In terms of content operation, TioTok launched the “see Music plan” to provide powerful and high-quality publicity channels for talented potential original musicians. The plan not only enrich their own music library resources, but also optimize the user experience. In the aspect of video clip, it try their best to cater to the novelty of young people’s personality. The video clip program is simple and easy to operate, solve the problem of difficult use of professional software. There are all kinds of special effects such as “time back”. Various special effects and colorful filter effects have been introduced. It based on the characteristics of female users slightly higher than male users, and the young women’s pursuit of fashion, beauty and vitality. A variety of special effects of “magnifying eyes, increasing, whitening” make the video production process more fun, increase the Face Score and increase the attractiveness of young women.

### *2.2 User Analysis of Sensory Experience*

The acquisition of information about the outside world comes through the sensory organs, while the sensory experience mainly refers to the experience of the sensory organs such as sight and hearing. The interface design, function presentation and interaction design of the TikTok app optimize the user’s visual and auditory experience. TikTok app interface design, functional presentation, interactive design is to optimize the user’s visual and auditory experience.

#### *(1) Visual and auditory design*

The human brain is a powerful pattern recognition computer that manages the mass of information

flowing into the eye by observing visual patterns. According to this characteristic, the visual designer reasonably designs each element of the visual structure, and communicates the behavior of the application to the user most effectively. People's attention is limited. The less attention resources the user needs to input the interactive interface, the better. The interface should try to eliminate meaningless information. Color and layout, information visualization (video) will have an impact on interaction. The black theme color and phonograph design elements of TikTok interface, in line with young people's view of fashion and aesthetic. Now playing to see only the user's home page that simplifies the operating procedures. The page has quick attention, like, comment, share, rotate music CD and other icons. The interface is modular in design according to the visual structure and meets the visual aesthetic requirements. In addition, a variety of special effects of video images coupled with dynamic and novel music quickly stimulate the user's auditory nerve.

## (2) Analysis of user interaction experience

Usability is the basis of interactive design that is a general evaluation of the availability. The information architecture and function design of the interface meet the psychological expectations of the user and promote effective human-computer interaction.

Interface information architecture meets the user's psychological expectations. The TikTok player interface has a double tab above and below, comment bar on the right, displays the topics of text, the creator notes, the original sound of the music in the lower left section and so on. Whether you're watching, sharing, socializing, introducing, creating your own content, you can find the content on the homepage. User operations are simpler and more intuitive. The interactive mode of player interface is convenient and fast. For example, pull down to switch to the next video, click continue or pause playback, and view the user's home page to the left. The quick operation design saves time for the users.

Function design meets the requirements of different scenarios. TikTok satisfies the functions of user to searching, viewing, socializing and creating content. (1) searching function. TikTok realize the function of searching user and content by configure search preload technology, providing hot words, history search and "sweep a sweep" function. (2) watch instantly. Home page is the default system recommended player interface and automatic loop. Vertical play mode more in line with the visual senses. (3) Social function. The right side of interface has icon, such as attention, likes, comments, sharing and so on. It has excellent interactive functions by quickly focus on other people, realize comment interaction, share useful information. TikTok allows the audience to comment and interact with other users without pausing playing of video, also achieve social functions. (4) UGC content creation function. Users can instantly create their personalized video works by clicking the Create icon below. It also provides background music and editing mode. Users can complete the personalized editing of the video through a simple operation to meet the user's creative needs and share the achievement. From the view of the usage scene, the user can use the fragmentation time to read the information during the leisure time, whether it is the toilet, the bed, the waiting time or the

transportation time.

### *2.3 Analysis of User's Emotional Experience*

Emotional experience is an experience activity that uses sensibility to drive psychology. It aims to capture the user's attention and induce emotional reactions (conscious or unconscious) to improve the design of the possibility of performing specific behaviors. The user experience is optimized by the attachment of user emotion. According to data, TikTok's current ratio of male and female users is basically the same, with 48.03% male users and 51.97% female users. In age distribution, users are mainly young people, with the highest proportion under the age of 30. They are concentrated in first and second tier cities. The characteristic of TikTok is the short video of music, which combines the strong expression ability of music with the expression of the popular culture potential of short video, which is consistent with the appeal of young people. According to the survey, college students expressed high satisfaction with the originality, fun, practicality, real-time and freshness of TikTok content. TikTok, with the slogan of recording a good life, has been recognized by users for spreading the atmosphere and sharing fun. Young people always have the feeling of being unable to stop browsing. This unconscious emotional experience captures the user's attention and improves the ability to watch TikTok.

### **3. UGC and PGC and OGC Content Production to Meet the Diverse and Individual Needs of Users**

According to statistics, TikTok's user has more than 200 million in the second quarter. It has a huge number of users. The contents of the short video of TikTok include all aspects of the world of beauty, handsome, child, cute pet, music, dance, food, travel, technology, games, beauty, fitness and so on. The mechanism for generating mass content is its user-driven content production. That is the fusion mode of UGC and PGC and OGC. Content can only achieve user viscosity if it can meet the needs of users. Uses and Gratifications theory of communication holds that people use some form of media is being able to meet certain needs. Content production of TikTok is closer to users' lives, realities and emotions demand, meeting the psychological needs of users. From theory of Maslow's hierarchy, this, getting friends and love, respect recognition, is a higher level of demand after meeting physiological and security needs.

The content producer of the UGC mode is an ordinary user and has no professional knowledge. They create and disseminate content based solely on personal experiences and interests. TikTok has almost no threshold for content producers. Users create personalized, lively, fresh, fun, and creative 15-second music video content based on their own preferences, along with a variety of fun and interesting music, and the addition of personalized effects and filters. It not only mobilizes users' enthusiasm for content production, but also enables the TikTok platform to obtain massive content at a very low cost and enrich the content form and continuous content source. The sense of participation and sense of accomplishment gained by the TikTok users, also enhance their loyalty to it. When ordinary users

generate and receive content based on the same interests, they can establish communication and interaction with other users. This provides users with a topic exchange community to meet their social needs. The establishment of social relationships helps to enhance the user's stickiness of the platform. The sharing mechanism has a positive meaning for building social relationships. TikTok produces content based on the ugc model, reflecting its emphasis on user activity and loyalty.

Content producers of the PGC model are individuals or experts with expertise in particular areas. They have a certain influence and popularity in certain fields, such as Wu Yi fan and other stars, novelists, foodies, writers, designers and so on. They produce professional, deep, vertical and high quality content based on their expertise. High-quality content is more attractive to users and helps to achieve user diversion.

Content producers of the OGC model are practitioners with a certain level of expertise and professional background. They produce content based on the perspective of professional identity and create value with the platform. The OGC mechanism sets a higher threshold for content producers. It requires not only the expertise or qualifications of a particular field, but also the professional identity of the producer. To some extent, quality producers are selected to help produce more high quality content. The platform insists that "content is king" and produces high-quality content to make up for the defects of the UGC model. It can further meet the individual needs of users to keeping them, increasing their loyalty.

TikTok insists on the user center. It classifies users from the general, professional, and professional aspects to produce a variety of content that meets the needs of users. The platform meet the individual needs of users through a variety of classification methods. Due to the content fusion mechanism of UGC and PGC and OGC ordinary users express their individuality through TikTok and develop social channels. Professionals such as celebrities can increase their influence, and professionals can attract traffic to create business value. At the same time, the three increase the attractiveness and participation of the platform, which can not only exert the scale advantage, but also obtain stronger user stickiness. At present, the number of daily active users in China has already broken through 200 million. TikTok not only needs to expand the form and content depth and value in content production, but also increases the appeal of content to users.

#### **4. Innovative Content Expressions to Cater to User Interests**

TikTok focuses on a 15 second short video of music to cater to the fragmented attention of user. The content of the 15-second short video innovated the "micro narrative" model. The content has the characteristics of story, clear context, reverse, unconventional, and creative. It greatly satisfies the user's curiosity. According to the American scholar E. M. Rogers, "theory of diffusion of innovation", refers to a "concept, practice, or thing" that is considered novel by an individual or other adopting organization. It spreads among members of a certain social group through certain channels over a period of time. The novel narrative mode of the short video has enriched the expression of the content

and is loved by the public.

The operation of TikTok has been trying to strongly guide the content production behavior of users. In the 1970s, American scholar of communication McCombs and Donald Shaw's agenda setting theory: there is a highly corresponding relationship between the public's understanding and judgment of important issues in social public affairs and the reporting activities of the media. That is to say, the "big things" reported by the media are also reflected in the public's consciousness as "big things". The challenges and hot topics of TikTok reflect the guiding role of agenda setting theory. Challenges and topics motivate netizens to create content and engage in interaction. It is easy to get millions and billions of users' attention. It can guide users to content production and implement boot functions. Under the guidance of specific topics, whether it is watching or participating in it, the user is concerned with similar content, providing the user with the focus of triggering common interests or actions. Therefore, there is interaction between the TikTok users. The mutual attention and interaction of users further stimulates the sharing experience of each other's emotions. TikTok often combines the topic of online hotspots to create shared themes such as finger dance and seaweed dance. This encourages users to create and upload audio and video. Hot topics can attract hundreds of millions of people to pay attention.

### **5. Recommended Algorithm Technology Boosts Personalized Service**

McGuire, an English scholar, argues that audience behavior is largely explained by individual needs and interests. The Uses and Gratifications theory suggests that audiences are individuals with special "demands" whose media contact behavior is based on specific motivations "using" the medium, so that their specific needs are "satisfied". The audience will actively choose content with the same interest or value, and accept it selectively. The application of big data technology enables the media to better analyze and grasp the different "needs" of the audience, and provide corresponding services according to their "needs". Therefore, it can optimize the user experience. The intelligent analysis of TikTok big data technology is supported by Toutiao's powerful data mining capabilities. The system depicts media usage based on user likes, sharing, duration, gender, age, location, etc. So it can relatively accurately analyze the user's income, consumption preferences, potential needs and other refined data. TikTok's core technologies are text mining, machine data mining, personalized recommendation engines, and more. This enables deep mining of data storage and retrieval, sensitive information monitoring, user behavior analysis, and report analysis. The platform then provides each user with products and services that truly meet their needs.

In content distribution, TikTok has a rigorous algorithm for distributing video content that matches its interests and preferences. In addition to intelligent algorithms, TikTok has a rigorous manual review of content distribution. Thousands of people collate with the algorithm to review and recommend content. Manual audits compensate for the mistakes in machine algorithms. The platform can accurately describe the characteristics, behaviors, and needs of users. The information and content that the

audience likes is then pushed based on audience preferences.

## 6. Reflection on User-Centric Theory of TikTok

The platform excessively caters to the user's preferences, resulting in the shallow and vulgarization of the content. TikTok is becoming increasingly shallow and vulgar in content, in order to realize traffic realization and commercial value. Some of the content violates the mainstream values of the society, lack effective and correct value guidance. The content appears homogenized. Part of the content involves infringement. Homogeneous and enjoyable content is difficult to maintain the user's long-lasting freshness and excitement, and is prone to aesthetic fatigue. The pushing content that users like based on recommended algorithm technology, can easily lead to information cocoons. Users are only immersed in their existing knowledge structure and interests, which leads to one-sided and narrow knowledge. The group only cares about its own interests, but is willing to share "the birds of a feather" and will add more information cocoons to the society. The user-driven mechanism based on the "user-centred theory" perfectly demonstrates the "uses and gratifications" theory. If this is only "satisfaction" and there is no "guidance", the function will decline.

In response to the vulgarity, shallowness and entertainment of content, TokTik should adhere to the role of "gatekeeper" and remove negative energy content. In the user-led and "private-custom" pop culture, TikTok needs to consciously "embed" certain elements of mainstream value, in order to achieve the function of guiding social values. It can create a short video social platform with rich content, elegant taste and entertainment. TikTok should provide multiple video content when delivering content to users accurately, to avoiding information cocoons. It can open up users' horizons and enrich their knowledge. The content production of the platform adheres to "content is king" and deepens the production mode of PGC content. It can improve the aesthetic taste and meet the high-level spiritual needs of users by providing quality content.

## References

- Dai, L. N. (2014). *Design psychology* (Vol. 3, pp. 57-70). Beijing: China Forestry Publishing House.
- Gu, Z. Y. (2016). *Principles & processes of interaction design* (pp. 40-47). Beijing: Tsinghua University Press.
- Guo, X. W., & Guo, Y. (2018). Development of TikTok short Video Social Application. *View on Publishing*, 324, 72-73.
- Guo, Q. H., & Meng, Q. L. (2018). Interactive ritual chain and value creation of TikTok. *Chinese Editors Journal*, 105, 72-74.
- Han, J.-H., & Wu, L.-S. (2017). The design and research apps centered on user experience. *Packaging Engineering*, 34(24), 124-127.
- Huang, C. X., & Wang, D. D. (2018). New Mechanism of content production in the Integration of production and consumption. *News and writing*, 10, 4-17.



Stanley, J. B., & Dennis, K. D. (2016). *Mass Communication Theory: Foundations, and Future* (5th ed., pp. 245-304, Cao Yue Shu, Trans.). Beijing: Tsinghua University Press.