WEP Warwick Evans Publishing

International Journal of Social Sciences and Public Administration

ISSN: 3005-9836 (Print), ISSN: 3005-9585 (Online) | Volume 4, Number 1, Year 2024
DOI: https://doi.org/10.62051/ijsspa.v4n1.56
Journal homepage: https://wepub.org/index.php/IJSSPA/index

Research on the Construction of Time and Space by Short Video with TikTok as the Representative from the Perspective of Media Affordance

Hangchi Dong*

Sichuan University of Science & Engineering, 643002, China
*Corresponding Author: Hangchi Dong

ABSTRACT

From the perspective of Affordance, this paper discusses how short video platforms represented by TikTok construct time and space, and analyzes the mechanism and influence behind it. Media availability theory emphasizes the possibilities and scope of action that specific media technologies can provide for individuals, and how these technological characteristics shape human behavior. In the short video field, especially on the Douyin platform, media availability is not only reflected in the generation, dissemination, and consumption of video content but also profoundly affects users 'perception and experience of time and space.

KEYWORDS

Media Affordance; Short Video; Media Technology.

1. INTRODUCTION

With the development of Internet technology and mobile terminal equipment, short video has become the mainstream form of communication. According to the 52nd Statistical Report on the Development of Internet in China released by CNNIC, by June 2023, the number of online video users in China had reached 1.044 billion, including 1.026 billion short video users, accounting for 95.2% of the total. [1]The rapid popularity of short video applications has overturned the traditional media's way of disseminating information and spreading content in a panoramic, three-dimensional, and accompanying manner. At the same time, it also serves as a technological configuration system that influences people's media practices and survival experiences in both virtual and real worlds.

The short video platform represented by Tiktok, through its unique media characteristics, not only changed people's information consumption habits but imperceptibly reconstructed people's space-time concept.[2]Compared with mass media, the significant difference between short videos and mass media is that, in terms of time dimension, people's media contact is no longer relatively concentrated and clear segments such as reading newspapers, listening to the radio, and watching TV in the era of mass media. Short video applications continue to embed in daily life with their fragmented, strong social and mobile features. In the space dimension, the symbolic meaning of the human body can escape from a specific scene or place in which the biological body is fixed, and the mediated existence unfolds synchronously with the movement of human beings in multiple space-time. [3]As a medium, a short video platform not only changes the way of information dissemination but also reshapes users' space-time experience. From the perspective of media affordance, this paper will take Tiktok as an example to explore how short video platforms build and affect users' space-time experience. Enrich the application fields of media affordance theory and deepen the understanding of short video

communication mechanism. It provides theoretical guidance for content creation and user experience optimization of short video platforms.

2. LITERATURE REVIEW

The Affordance theory, first proposed by ecological psychologist James Gibson, refers to the possibility and scope of action provided by a particular environment or object.[4]According to Donald Norman[5], Affordance is concerned with the perceived and actual properties of something, primarily the fundamental properties that determine how it might be used. Media affordance refers to the interactive and complementary relationship between media technology and user use, on the one hand, media technology has objective physical attributes that give users the possibility to take various actions; On the other hand, users' perception and use of media technology have subjective cognitive attributes, and the prerequisite for users to achieve media functions is their subjective cognition of the technology. Therefore, Chinese scholars divide media affordance into three dimensions: information production affordance, social affordance, and mobile affordance.[6]In the field of media studies, the affordance theory emphasizes the shaping effect of technology characteristics on human behavior, and becomes an important tool to analyze the complex relationship between media interface, communication technology and user participation. In the era of intelligent communication, the affordance of platform media is mainly manifested as "visibility", that is, whether it can be seen by others, whether it can obtain the attention of others, and whether the attention obtained reaches a certain scale.

Based on short video as a form of "human-technology" interactive operation and its specific mediums, people's emotions and perceptions will inevitably be affected by it. Media affordance explains how technology constructs anxiety and how "anxiety" forms and spreads in the Internet environment. [7]However, some scholars believe that the user information exchange mode under media affordance also plays a mediating role in social anxiety [8]. At the same time, social media is an efficient medium that provides busy employees with a wealth of content that allows them to satisfy their need for belonging through social media [9]. In addition, the problem of short video addiction has attracted the attention of scholars. From the perspective of media affordance, this paper analyzes how the interactive logic and underlying algorithm of short video applications can make users face the limitations of control choices while enjoying entertainment experience [10].In addition, research on media affordance is also carried out in the field of cultural communication and education. As a form of new media, short video has become an important carrier for the international communication of Chinese culture. [11]Short video platforms such as TikTok and Kuaishou play an important role in international communication, especially TikTok, which has a high number of downloads and active users worldwide. [12]Some scholars have also studied the way social media provides educators to solve problems from the perspective of media reliability. [13]

In the commercial field, the research on the creation and operation strategy of e-commerce short videos has expanded the application of media affordance theory in the Chinese context.[14]At the same time, some researchers used text mining technology to analyze the video copy and comments of the head anchor in the short video platform and discussed the shaping effect of the new media environment on the product placement. [15]Based on the media affordance theory, people's interactions with algorithms in daily life can be viewed as equal positions for people and algorithms, rather than placing people or algorithms in the dominant and dominated positions. [16]

On the other hand, the short video platform builds a virtual communication space different from the geographic space, which reduces the restriction of geographic space on the content creation of short video creators. [17]With the help of actual space forms, short video production generates new social meanings and power relations in geographical space through online dissemination and influences the reallocation of power and capital in this space.[18]In recent years, "affordance" has been widely discussed in computer-mediated communication and ICTs research, and researchers have attempted

to use this concept to examine the impact of emerging technologies. [19]From the perspective of media affordance, this study tries to understand how Tiktok influences users' space-time perception and behavior through its media affordance.

3. THEORETICAL

Affordances refer to the possibilities that the environment provides for an animal to use.[20]In 2003, Wellman and other scholars introduced this concept into communication studies and regarded it as "the possibility of technology/things affecting daily life", to study the many functions provided by the Internet to people, highlighting the social attributes of the concept of "affordance".In 2017, R.E.Ice et al. further proposed the concept of media affordance, which refers to the relationship between the potential of actors to use media for action and the potential characteristics, capabilities, and constraints of media under a specific background. In the field of communication, affordancestheory is used to analyze the interaction between media technologies and their users, in particular how technologies give users specific possibilities for action. Donald Norman divides affordances into "real affordances" and "perceived affordances".[21]Real Affordances refers to behaviors that an object or environment can support. Real affordances is a physical property that is independent of an individual's perception, for example, that a cup is used to drink water. Perceived Affordances refers to how an individual perceives the behavior that an object or environment can support. Perceived affordances is influenced by individual experience, cultural background, and context, and may not be exactly consistent with real affordances. For example, if a person has never seen a cup, they may not immediately recognize that its perceived affordances is for drinking water. In short video platforms, these objects become video content, social features, and algorithmic recommendations.

Space-time construction involves the interaction of physical space-time and psychological space-time. Physical space-time refers to the objectively existing time and space, which is independent of individual perception of physical properties. Psychological spacetime refers to an individual's subjective perception and psychological experience of time and space. This perception is influenced by an individual's psychological state, emotions, cultural background, and personal experiences. Physical space-time is objective, while psychological space-time is subjective. Individual psychological space-time experience is based on the perception and interpretation of physical space-time, and there is an interaction between the two. Media technology connects events in different time and space by disseminating information, enabling people to communicate across geographical boundaries and time differences. With the continuous development of media technology, the fluidity of time and space is gradually enhanced. For example, real-time updates and live streaming on social media allow information to spread rapidly across the globe, creating instant interaction and feedback. Media is not only a tool of information transmission, but also an important carrier of social culture. By constructing a specific time frame and narrative logic, media shapes and influences people's values, beliefs and behaviors. Short video platforms influence users' perception of time and space by virtualizing space, immediacy, and personalized recommendations. People enter the hybrid space where physical and digital intersect, which is a socio-technical combination created by people, space, and mobile portable technology.[22] Short video accelerates the transmission of information through rapid content switching, thus affecting people's perception of time.

4. THE CONSTRUCTION OF SPACE-TIME BY SHORT VIDEO

The short video, with its concise characteristics, breaks the linear limitation of time in the traditional media era. On the Tiktokplatform, users can shoot, upload and watch short videos anytime and anywhere. This fragmented way of information consumption greatly improves the efficiency of time utilization. At the same time, the instant feature of short video makes information spread rapidly in a

short time, which meets the information acquisition needs of modern people in the fast-paced life. Users no longer need to spend a lot of time reading long papers, but quickly obtain key information through short videos, which realizes the "compression" and "reconstruction" of time. On the one hand, short video often needs to compress real space and time due to its time limitation. Through careful editing and shot grouping, short videos can compress long-time processes, such as crop growth and complex skill display, into a few minutes or even a few seconds, realizing the folding and compression of time and space. This technique not only saves time but also enhances the compactness and enjoyment of the video. On the other hand, although short videos have a limited duration, they can create a space-time feeling beyond the actual duration through creative narrative and visual performance. For example, through time-lapse photography, slow motion, and other techniques, the audience can feel the passage of time and the transformation of space in a short time, to realize the extension of time and space.

Short videos often use nonlinear narrative techniques to break the traditional time order and space structure and construct the story plot through the interleaved reorganization of spatiotemporal relationships. This kind of narrative method increases the complexity and visibility of the plot, allowing the audience to obtain a richer information experience in a limited time. Short videos can also use special effects, animation, and other technical means to create virtual space-time scenes, such as science fiction, fantasy, and other types of short videos. This virtual space-time not only expands the audience's imagination space but also provides creators with more ways of expression and narrative space.[23]Short video platforms usually have instant interaction and feedback functions, and viewers can like, comment, share, etc. This instant interaction and feedback mechanism enables viewers to participate in the construction of time and space more deeply. Audience reactions and opinions also affect the creative direction and style choices of creators.

Short video platforms connect users with content on a global scale through algorithmic recommendation mechanisms, breaking the limitation of physical space. On TikTok, users can watch video content from different countries and regions and experience different cultural styles and lifestyles. This space experience across geographical boundaries makes users' space perception more broad and diverse. At the same time, the virtual scene and special effects technology in short videos further blur the boundary between reality and virtual and realize the "convergence" and "reconstruction" of space. The media technology of short video and the information network of the platform liberate the dependence of visual narration on physical media, and information can exist in the perceptual form of visual images at any time and any place.[24]Users can freely shuttle through the virtual space and feel the emotional experience under different time and space backgrounds.

5. CASE STUDY

The Tiktokplatform encourages users to create and share short video content, forming a huge content ecosystem. Users achieve self-expression and identity by making and watching short videos. In the social field of Douyin, the behavior practice of watching and performing contains the primary logic of young people's short video social behavior--text production based on performance desire. By participating in hot topics, challenges, and other activities, users can not only gain more exposure and attention but also build social relationships through interaction and form a tight social network.

Take "Travel transition", a popular topic on Douyin, for example. It has 47,000 participants and 2.28 billion views on Douyin."Travel transition" refers to the process of traveling, through clever transition skills and drag design, the pictures of different scenes, different costumes, and different styles are seamlessly connected to form a smooth, interesting and creative short video. This video format not only shows the style of the traveler but also tests the editing skills and creative ability of the creators. From a temporal perspective, creators compress days or even weeks of travel experiences into a few minutes of short videos through careful editing and lens composition. This time compression not only saves the audience's time but also creates a compact and dynamic viewing experience through quickly

switching scenes and editing rhythms. At the same time, through time-lapse photography, slow motion, and other techniques, it can show the passage of time in a short time and realize the extension of time. Creators guide the audience to follow in their footsteps and experience the passage of time and the rhythm of travel through the concatenation of time clues, such as natural elements like sunrise and sunset, seasonal changes, and artificial clues like itinerary and activity arrangements. This narrative method of time clues makes the video content more coherent and attractive.

From a space perspective, the switching between different locations displays a rich variety of space scenes, such as urban landscapes, natural landscapes, and cultural landscapes. The transition of these space scenes not only enriches the video content but also broadens the audience's horizons and imagination. Creators construct narrative scenes through space selection and layout. For example, by comparing cultural differences, scenic features, etc. in different locations, a story about travel, exploration, and discovery is told. At the same time, by using elements such as light and color reasonably, a unique space atmosphere is created, enhancing the infectiousness and attraction of the video.

6. DISCUSSION AND CONCLUSION

Media affordancestheory emphasizes the interactive relationship between technology and users, which provides a new perspective for understanding the construction of time and space by short video. From the perspective of media affordances, short video platforms have a profound impact on users' concept of time and space through their unique media characteristics. In the time dimension, short video realizes the fragmentation and immediency of time. This information transmission mode not only improves the utilization efficiency of time but also allows users to obtain a large amount of information in a short time. In a limited time, the producer needs to accurately locate the theme, avoid information redundancy, ensure that the audience can obtain the core information in a short time, and meet the user's pursuit of instant satisfaction. However, this mechanism is easy to make users fall into the state of "addiction", resulting in the gradual weakening of the concept of time. Users may start to browse short videos with the mentality of "watch a few minutes to get to work", but they often get stuck, which takes up a lot of time originally planned for work, study, and other serious things. Frequent switching of short video content may cause the user's concentration to be scattered and degraded. Because each video content is relatively independent and short, it is difficult for users to maintain in-depth thinking and attention on a certain topic for a long time, which affects the cultivation of deep learning and thinking ability.

In the space dimension, a short video breaks the limitation of physical space and realizes the span and integration of space. The short video platform represented by Tiktokhas built a new space-time experience space for users through content production and social interaction, algorithm recommendation, and personalized experience. The content on TikTok covers culture, scenery, and food from all over the world. By browsing these videos, users can feel the local customs and customs of different parts of the world without leaving home, thus expanding their global vision. At the same time, TikTok will also promote the integration of social space. Based on common interests or values, users will form various communities on short video platforms. These communities not only provide users with a sense of belonging and identity but also promote the sharing of information and the dissemination of culture. These communities not only provide users with a sense of belonging and identity but also promote the sharing of information and the dissemination of culture. The various functions provided by short video platforms, such as shooting, editing, publishing, sharing, and commenting, are the concrete embodiment of real affordances. These features provide users with rich means of creation and interaction, making short videos an important tool for building personal spatio-temporal experience and social relationship network. The media affordance perspective can help short video platforms better understand user needs and technology trends, to formulate more reasonable development strategies.

The media affordances perspective seeks a balance between "user" and "technology", emphasizing both the functionality of technology and the subjectivity of users. When providing users with information services, the platform enriches users' experience through diversified content transmission forms, and users can also determine their information acceptance preferences through various interactive behaviors. This helps us to get rid of the limitation of extreme technological determinism and understand the role of new media technology in the construction of time and space more comprehensively. We can also gain a better understanding of how users interact with the medium and how they use it to construct their own spatiotemporal experiences. This helps us to improve the media literacy of the public so that they can view and use new media technologies such as short videos more rationally.

However, this study is mainly based on case analysis, and the research results still have some limitations. In the future, with the continuous progress of technology and the continuous expansion of application scenarios, short video platforms will play a more important role in building human concepts of time and space. Therefore, future studies can explore whether the effect of short videos on space-time construction is universal and how it varies across cultural contexts.

REFERENCES

[1] CNNIC. The 52nd Statistical Report on Internet Development in China [EB/OL].https//cnnic.cn/n4/2023/0828/c199-10830.html.

[2] Liu Tao.Take short video as a method to understand media survival[J].News and Writing, 2022(4):1.

[3] SunWei.Cyberman: Media Convergence in the Post-Human Era[J].Shanghai Journalism Review, 2018(6):4-11.

[4] Gibson JJ.The ecological approach to visual perception.New York:Taylor&Francis,2015:120.

[5] Norman,D.A.The Design of Everyday Things,Cambridge:The MIT Press,1990,p.9.

[6] Pan Z.D and Liu,Y.S.What is "new"? The Power Trap in the Discourse of "New media" and the theoretical introspection of researchers -- an interview with Professor Pan Zhongdang[J].Journalism & Communication Review, 2017(1).

[7] Liu,Y.The Propagation Motivation of group Anxiety: A study based on wechat parenting Group from the perspective of media Affordances[J].Press Circles,2020(10):40-49+59.

[8] Chen, Y.A. and Toma, C.L. (2024) To Text or Talk in Person? Social Anxiety, Media Affordances, and Preferences for Texting Over Face-To-Face Communication in Dating Relationships, Media Psychology, 27(3), pp. 428–454.

[9] Wang, B. et al. (2023) 'How can people benefit, and who benefits most, from using socialisation-oriented social media at work? An affordance perspective', Human Resource Management Journal, 33(4), pp. 1035–1052. doi:10.1111/1748-8583.12504.

[10] Yan,Q and Chen, K.L.Between Controllable and Uncontrollable: Media Affordance of Short Video Addiction [J].Journal of Fujian Normal University (Philosophy and Social Sciences Edition),2023,(01):90-101+171-172.

[11] Wang,F.X. and Tian,X.B.The Affordance Innovation of Excellent traditional Culture short video in mainstream media -- A case study of CCTV[J].Southeast Communication,2024,(06):49-52.

[12] The Paper.The latest academic research report on short video research (abstract version) has been released online(2021-7),https://www.thepaper.cn/newsDetail_forward_13656374.

[13] Koehler, A.A. and Vilarinho-Pereira, D.R. (2023) 'Using Social Media Affordances to Support Ill-Structured Problem-Solving Skills: Considering Possibilities and Challenges', Educational Technology Research and Development, 71(2), pp. 199–235.

[14] HUANG Miao. Media Affordance of E-retailing Short Video: Text Mining and Comparative Study #br# of Beauty Anchor in Kwai[J]. Journal of Beijing University of Posts and Telecommunications(Social Sciences Edition), 2020, 22(5): 1-9.

[15] Yang ,T.T and Tian, S.G. Analysis of Media Affordances of Short Video Embedded Advertising Based on Text Mining[J]. Software Engineering and Applications, 2022, 11(3): 466-473. https://doi.org/10.12677/SEA. 2022.113049

[16] HangFu,B.Y.When the algorithm crashes: Understanding the user-algorithm interaction from a Affordance perspective[J].Shanghai Journalism Review,2021(04):55-64.

[17] Wei,Y.et al.Exploration of the dependence of short video creators' virtual space on geographic space - taking Bilibili bullet screen website as an example, Tropical Geography, (2024)44(3), pp. 468–479.

[18] Wang,J.L.Spatial Reproduction: A Value Interpretation of Network Short Video[J].Modern Communication (Journal of Communication University of China),2019,41(07):118-122.

[19] Davis,J.L.,How Artifacts Afford:the Power and Politics of Everyday Things,Cambridge:The MIT Press,2020,pp.27-28.

[20] Gibson JJ.The ecological approach to visual perception.New York:Taylor&Francis,2015:120.

[21] Norman,D.A.,“Affordance,Conventions,andDesign,”Interactions,Vol.6,No.3,1999,pp.38-43.

[22] de Souza e Silva, A. (2023). Hybrid spaces 2.0: Connecting networked urbanism, uneven mobilities, and creativity, in a (post) pandemic world. Mobile Media & Communication, 11(1), 59-65.

[23] Li,W.B and Zhao,S.Y.Visual Turn, Spatiotemporal Reconstruction, and Embodied Practice: Mediated Survival in the Short Video Era[J].Future Communication,2023,30(01):2-9.DOI:10.13628/j.cnki.zjcmxb.2023.01.005.

[24] Jia,J.Image Utopia: The Rise of Visual Images[J].Exploration and Criticism,2021(2):135-148.