

User Participation Behavior of Short Video of Intangible Cultural Heritage under Social Media

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Abstract:

Under the background of deep integration of digital technology and traditional culture, short video has become the key carrier of intangible heritage broadcasting. This study focuses on the information needs and participation behaviors of video users, integrates the comment data from platforms such as Tik Tok and Kwai and social media interest groups, innovatively combines the theory of information ecology with S-O-R model, and explores how information ecological factors (information quality, interaction mechanism, emotional resonance, etc.), as external stimuli, can be transformed into specific participation behaviors by influencing users' cognitive and emotional input. The research shows that users' information needs are significantly diversified: 38% pay attention to cultural connotation, 35% focus on professional details, and 27% prefer national style elements, reflecting the dual pursuit of in-depth content and personalized experience. User's participation behavior has "dual attributes", which is not only interactive and social, but also has clear goal selectivity. And the retention rate of short video users with high content innovation is 2.3 times that of ordinary content, which proves users' preference for novel forms. The purpose of this study is to provide theoretical and practical reference for optimizing the short video communication strategy of non-legacy and help the non-legacy to be passed down more widely and effectively in the social media era.

Keywords: Intangible cultural heritage; short video communication; user engagement behavior; social media; communication strategy.

1. Introduction

At the moment when the wave of digitization is sweeping the world, intangible cultural heritage is facing an unprecedented inheritance dilemma. The traditional mode of transmission of intangible cultural heritage has long been limited by single channels such as offline exhibitions, hands-on teaching by inheritors, and museum displays, which not only limits the scope of transmission to the strict boundaries of geography and time, but also makes it more difficult to reach the young groups who are accustomed to digital life. Data show that China's existing non-heritage projects, nearly 30% of the traditional skills face the problem of inheritor aging, less than 15% of inheritors under the age of 40, the younger generation's cognition of non-heritage stays in the "ancient", "obscure" stereotype, participation continues to go down, non-genetic inheritance is experiencing a serious crisis of generation break.

The rise of short video platforms for breaking this predicament provides a new possibility. By virtue of their fragmented communication characteristics, algorithmic recommendation mechanisms and strong interactive attributes, platforms such as Jitterbug and Shutterbug have constructed digital bridges connecting NGLs with the general public. Short video platforms such as Jittery Voice, with its virtual community attributes, build a "third culture" space conducive to the dissemination of No-legacys, facilitating people's understanding of No-legacys as well as the development of related dialogues [1]. According to China's Non-legacy Short Video Development Report 2024, the annual broadcast volume of non-legacy-related short videos has exceeded 80 billion times, of which the "post-95" users contributed 42% of the viewing volume, and the non-legacy secondary content created by the "post-00" users has increased by 187% year-on-year. From the Augmented Reality (AR) effect display of Peking Opera face painting to the live broadcast of the forging process of Miao silver jewelry, from the cross-border fusion of shadow puppetry and animation to the Vlog presentation of traditional gourmet food production, short videos, with their unique audio-visual language, have brought the originally "kept in the boudoir" non-legacy projects into the public's field of vision, and even spawned a new type of inheritance groups such as "non-legacy anchors" and "handicraft netizens" [2].

However, there are hidden worries behind the prosperous data. The current non-legacy short video communication still exists "heavy traffic light precipitation" "heavy display light interaction" phenomenon, part of the content for the pursuit of clicks deliberate curiosity, non-legacy elements symbolization, surface; most creators lack of user behavior law of the depth of knowledge, resulting

in" one-time viewing "phenomenon is common, the user retention rate is only 19%, much lower than the average platform. Existing research focuses on the innovation of content presentation form, such as exploring the influence of camera language and narrative structure on the communication effect, but rarely from the user's perspective to systematically analyze the differences in the motivation of different groups to participate in the study, the answer to this key question is the key to crack the plight of the non-legacy short video communication "flow but no stickiness".

This study takes the participation behavior of non-heritage short videos as the core research object in social media environment, integrates the comment data of short video platforms and the research data of interest communities, combines the theory of information ecology and S-O-R model, and constructs the systematic analysis framework of "stimulus - organism - reaction", which is of great theoretical and practical significance.

At the theoretical level, this study is the first to introduce the four-dimensional model of information ecology, namely, "information people-information-information environment- information technology", into the study of NRL communication, which breaks through the limitations of existing studies that focus on a single variable. By analyzing how ecological factors such as information quality, interaction mechanism, and emotional resonance affect the participation behavior of users through their cognitive and emotional involvement, it not only enriches the theoretical system of digital communication of No-legacys but also expands the boundaries of the application of user behavior research in the field of traditional culture. At the same time, the study analyzes the behavioral differences of users of different ages and interests, providing a new academic perspective for understanding the stratified characteristics of cultural consumption in the digital era, and filling the gap of "comparative analysis of group differences" in the existing research.

At the practical level, the research results will provide multi-dimensional strategic support for the practice of non-genetic inheritance: for non-genetic inheritance bearers, the direction of content production can be optimized based on the user's demand characteristics of "cultural connotation" "professional details" to avoid falling into the misunderstanding of "innovation for the sake of innovation"; for short-video creators, the concept of "content layered design" provides an operational guide for accurately matching the needs of different groups, such as targeting young For short video creators, the concept of "content layering design" provides operational guidelines for accurately matching the needs of different groups, such as the development of creative content that inte-

grates traditional patterns with modern clothing for young people, and the strengthening of original skills demonstration for middle-aged and old-aged users; for platform operators, the proposal of a “community-based operation mechanism” - including the dual-track guidance model of “non-genetic inheritors + Key Opinion Leaders (KOLs)”, and the closed-loop design of on-line punch cards and off-line workshop experience - can effectively enhance the sense of belonging of users-can effectively enhance users’ sense of belonging and long-term participation. The implementation of these strategies will promote the transformation of non-heritage short videos from “passive viewing” to “active participation”, and ultimately realize the development of non-heritage in the digital era.

2. Literature Review

The analysis of domestic scholars based on the short video reviews of Huangmei Opera found that the users’ demand for non-legacy content presents diversified characteristics, which not only covers the desire for deep information on the historical background of non-legacy projects and the process of techniques, but also shows the preference for the elements of regional characteristics [3]. However, the study lacks a comparative analysis of the differences in the needs of users from different communities, and cannot reveal the specificity of users from different communities in terms of information needs.

The special study of Jitterbug’s “Non-legacy Partners” program further expands the knowledge of user participation behavior. The data show that video quality, platform interaction mechanism and emotional resonance are the three core factors driving user engagement, and the combined effect of these three factors can increase the user engagement rate by more than 40%. Improving user participation rate should start from outputting aesthetic pleasure, insisting on content as king, digging into value connotation and optimizing communication structure [4]. Research on social media interest communities complements the influence mechanism of community dimensions, as the demonstration and guidance of core members can increase the participation frequency of ordinary users by 1.8 times, and the sense of belonging to the community can significantly prolong the user’s sustained participation period, with the average retention time extended from 3.2 months to 7.5 months. However, there are obvious gaps in the existing research, and the linkage mechanism between online behavior and offline participation has not been fully explored, such as the conversion path from watching shadow puppets to signing up for an offline experience class, and how the community discussion influences users’ decision to participate in volunteer activities for the protection of intangible cultural heritage, etc. These miss-

ing links lead to the understanding of users’ participation behavior still remains in the online dimension, and it is difficult to outline a complete behavioral mapping.

Aiming at the above research limitations, this study constructs an integrative theoretical framework to more systematically analyze the occurrence mechanism of non-heritage short video user participation behavior. At the level of theoretical foundation, this study takes the theory of information ecology as the core and builds a four-dimensional analysis model of “information person -information-information environment-information technology”. The informants are the communicators (inheritors and creators) and receivers (users) of NRM short videos, whose knowledge structure and cultural background directly affect the production and interpretation of information; the information covers the depth, breadth, and presentation of NRM content, and is the core carrier of users’ needs; and the information environment includes the information flow formed by the algorithmic recommendation of the platform, the public opinion atmosphere in the comment section, and the value orientation in the community.

On this basis, this study integrates the S-O-R (Stimulus-Organism-Response) theoretical framework and constructs the logical chain of “External Stimulus - Internal State - Behavioral Response”. The information ecological factor acts as an external stimulus (S), which forms the change of the internal state (O) of the organism by acting on the user’s emotional and cognitive involvement, and ultimately transforms into diversified behavioral responses (R). Specifically, high-quality non-heritage information will enhance users’ cognitive depth and trigger “learning and imitation” behavior; emotional resonance within the community will strengthen users’ sense of belonging and promote “sharing and spreading” behavior; and non-heritage scenes presented by VR technology may stimulate users’ desire for offline experience, forming a “learning and imitation” behavior. The non-heritage scenes presented by VR technology may stimulate users’ desire for offline experience, resulting in the transformation of “online attention - offline participation”. This integrated framework not only makes up for the neglect of “online-offline linkage” in existing studies but also provides a systematic tool for analyzing the complexity of user engagement behavior through the integration of multi-dimensional theories.

3. Core Research Findings

3.1 Diversified Characteristics of Users’ Information Needs

Users are generally eager to understand the cultural connotation behind NRL projects. For example, in the

comments of Huangmei Opera-related short videos, 38% of the comments involve the exploration of the artistic origins of Huangmei Opera singing, which indicates that users are not satisfied with the superficial demonstration of skills, and they hope to gain a deeper understanding of the historical and cultural value of No-legacys.

In the collected user feedback, 35% of users pay attention to the professional details of NRL techniques, such as the needlework skills of traditional embroidery and the production process of the guqin, etc.; 27% of users prefer content with elements of ethnic flavors, such as the combination of costumes, dances, and festive customs of different ethnic groups with NRL items, which suggests that users need to have targeted creations with professional and personalized needs [5].

3.2 Dual Attributes of Participation Behavior

Users form a cultural discussion circle on the short video platform through the behaviors of liking (62%), commenting (41%), and forwarding. Taking the hanfu community as an example, users in the community communicate around hanfu-related non-heritage projects, such as traditional textile techniques and clothing pattern design, with a daily average of 12.5 interactions, which not only strengthens the connection between users, but also promotes the dissemination of non-heritage culture.

At the same time, users have obvious target selectivity when participating in activities related to non-heritage short videos. Data show that the retention rate of users of short videos with high content innovation is 2.3 times higher than that of ordinary content (data source: 2024 Shake Non-legacy Data Report), which indicates that users are more inclined to pay attention to those non-legacy short video contents with novel and creative forms.

3.3 Key Influencing Factor

Model The engagement behavior model constructed by shows that information quality and user interaction have the most significant influence on engagement behavior. Information quality includes the accuracy, interestingness and professionalism of the content, and high-quality information can attract users' attention and increase their willingness to participate; user interaction includes the interaction between users and the interaction between users, creators and platforms, and a good interactive atmosphere can enhance users' sense of participation.

Meanwhile, there are differences in the sensitivity of users of different age groups to innovative forms, and the sensitivity of young users (18-30 years old) to innovative forms is 47% higher than that of middle-aged and old-aged users, which means that when creating short videos of non-heritage for young groups, it is necessary to pay

more attention to the innovation of forms, such as the use of animation, virtual scenes, and the combination of popular music, and so on.

4. Optimization of Communication Strategies

4.1 Content Layering Design

Content layering design is the core strategy to improve the communication effect of non-heritage short videos, and its core logic lies in accurately matching the information receiving habits and emotional needs of different user groups, so as to realize the communication of non-heritage culture with "a thousand faces".

For the young user group aged 18-30, the fusion creation of "non-heritage + trend" should closely follow the contemporary aesthetic preference and social context. In terms of visual presentation, the burin pattern of Miao silver jewelry can be transformed into the print design of trendy apparel, and fast-paced editing can be used to show the whole process of extracting the traditional pattern to the finished product of modern apparel, together with electronic music and fashion blogger's wear evaluation, so that the non-heritage elements can become the "cultural symbols" of the young people's social circle. In terms of content innovation, a series of short videos on "non-heritage skills breaking through" can be developed, such as designing the flat-needle embroidery method of Suzhou embroidery as a gamified teaching level, and after users learn the basic needlework by watching the video, they can participate in the online "embroidery challenge", and the winner can unlock the non-heritage The winner can unlock the advanced teaching video of the non-heritage inheritor [6].

For middle-aged and elderly users over 45 years old, the content design should focus on the dual value of "cultural authenticity" and "emotional awakening". In terms of content selection, the classic cantata of Peking Opera's "The Drunkenness of the Concubine" is presented in its entirety, paired with subtitle annotations and on-site commentary by opera experts to meet their needs for appreciation of traditional art; and the whole process of making Dragon Boat Festival scented sachets by veteran craftsmen is recorded, from wormwood picking, fabric cutting to embroidery and sewing, conveying the artisanal spirit of "slow and careful" through long lenses and close-ups of details. "the spirit of craftsmanship. At the level of emotional resonance, people can plan a series of short videos in the form of documentaries on "non-heritage memories", following the old craftsmen back to their workshops when they were young, and recreating the application of

non-heritage skills in daily life scenarios through the comparison of old photos and oral recollections of neighbors, triggering a sense of nostalgia for the past.

4.2 Socialized Operation Mechanism

Socialized operation is the key path from “passive viewing” to “active participation”, and it is necessary to build the operation system of “core users leading + full chain interaction”. operation system.

Core users can be cultivated by adopting a “pyramid” development model: the bottom layer is a wide range of interested users, and light interactions such as “non-heritage knowledge quiz” and “skill challenge” are set up in the comment area of short videos. The bottom layer is a wide range of interested users, through the short video comment area set “non-heritage knowledge quiz” “skills small challenge” and other light interaction, screening out users with a sustained willingness to participate; the middle layer is the backbone of the community, by the platform joint non-genetic inheritance bearers to carry out online training, the content of which includes basic knowledge of non-heritage, short video shooting skills, etc., the assessment of qualified people awarded the “non-heritage culture dissemination officer” certification, given the community topic initiation, activity organization and other permissions; the top layer for the Core co-creative team, invited to participate in the non-heritage short video topic planning meeting, such as with the shadow puppet inheritor to jointly design the “shadow puppet new repertoire” collection activities, so that users deeply involved in the content production process [7].

The dual-track guidance mechanism of “non-genetic inheritors + KOL” needs to realize the organic integration of professional value and communication effectiveness. In terms of professional content output, Non-Genetic Inheritors (NHIs) can open “master class” columns, such as the Guqin inheritor weekly live explanation of overtone techniques, synchronized in the community release of music manuscripts and practice points; KOL is responsible for the transformation of professional content into the language of the general public, such as “Guqin tone like raindrops into the deep pools” and other metaphors to reduce the difficulty of understanding, and at the same time, reduce the difficulty of understanding. KOLs are responsible for translating professional content into popular language, such as using metaphors like “the sound of the guqin is like a raindrop falling into a deep pool” to reduce the difficulty of comprehension and initiating the topic of “My First Experience with the Guqin” to encourage users to share their learning achievements. Customize the cooperation mode for different communities, for example, in the Hanbok community, the Su embroidery inheritor and

Hanbok bloggers can jointly broadcast to show how to decorate the neckline of Hanbok with traditional stitches; in the gourmet community, invite the inheritor of mooncake production technology to cooperate with the gourmet KOLs to develop “new flavors of mooncakes of non-heritage”, through the “traditional craft + modern ingredients”. The collision of traditional craftsmanship + modern ingredients” creates a communication explosion [8].

The design of online and offline closed-loop activities needs to build a positive cycle of “participation - harvest - re-communication”. The online end can launch the “non-heritage at my doorstep” short video collection, users upload the non-heritage skills around the record, after the netizens vote and expert evaluation, selected the “non-heritage discovery officer”; the offline end for the winners of the non-heritage workshop in-depth experience, such as learning compilation techniques with bamboo weaving artists, will be the most important part of the non-heritage experience, the most important part of the non-heritage experience, will be the most important part of the non-heritage experience. Offline, the winners are provided with an in-depth experience in the non-heritage workshop, such as following bamboo weavers to learn the techniques of weaving and uploading their own bamboo weaving works to the platform as “digital collectibles” to form a double memorial of “physical works + digital credentials”. Periodic “non-heritage bazaar live week”, offline set up non-heritage skills experience area, heritage signing area, online synchronous live bazaar, users online booking experience projects, buy non-heritage derivatives, and can get the priority to participate in offline activities. This mode of “online attraction-offline precipitation - online feedback” is the most effective way to attract visitors to the market [9,10].

5. Conclusion

This paper adopts the method of integrating short video platform comment data and social media interest community research, combining information ecology theory and S-O-R (Stimulus - Organism -Reaction) model, to analyze the information demand and participation behavior of non-heritage short video users.

Through the study, it is concluded that users’ information needs are diversified, covering the demand for content depth, professional and personalized needs, etc. It is also found that users’ participation behavior has the dual attributes of interactive sociality and selective targeting, and that users form a cultural discussion circle through liking and commenting, etc., and that the retention rate of users of short videos with a high degree of content innovation is higher.

The mechanism of information ecological factors as ex-

ternal stimuli affecting users' emotional and cognitive involvement and then influencing users' participation behavior is further elaborated, and the participation behavior model constructed shows that information quality and user interaction have the most significant impact on participation behavior, and there are differences in the sensitivity of different age groups to innovative forms.

As for the future outlook, scholars can further explore the application of meta-universe and other new technologies in the dissemination of non-heritage, such as constructing virtual non-heritage museums, so that users can visit non-heritage exhibits in an immersive way without leaving their homes, and deeply understand their historical background and cultural connotations; carry out virtual non-heritage skills experience activities, so that users can try to operate non-heritage skills in a virtual environment, and feel the charms therein, and analyze the impact of these applications on users' participation behaviors. Analyze the impact of these applications on users' participation behavior. At the same time, scholars deepen the dynamic research on the online and offline behavioral fusion communication mode and track the behavioral changes of users in different scenarios. For example, whether users will participate in offline non-heritage experience activities after watching short videos of non-heritage online, and whether there is any change in their attention to and interaction with online content after participating in offline activities, so as to provide a more comprehensive basis for the continuous optimization of the non-heritage communication strategy, and to promote the better inheritance and development of non-heritage in the new era.

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