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Analysis of the visual communication path of popular science content based on WeChat official account

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Abstract: *For the Novel Coronavirus, which started in Wuhan, Hubei province, in early 2020, it has spread rapidly around the world at a super speed. Wechat, an instant messaging app, "forcibly" loaded the latest news of the daily epidemic in its official account function and released the epidemic dynamics in real time, so that the epidemic information it pushed every day was read by a huge number of one billion people and became the main platform for the audience to obtain information during the spread of the epidemic. The visualized elements such as charts, videos, H5 interface and MG animation presented in the epidemic information of "Top and Push" are in line with the production process of data news in the new media environment and the audience's personalized and socialized content consumption needs. At the same time, it also puts forward a new idea for the content production of local government popular science communication public account in the "post-epidemic" era.*

Keywords: *Top and push, Official Accounts, Science Communication, Visualization, Communities*

As we all know, the prelude of 2020 started with Novel Coronavirus. From the closure of the South China Seafood Market on January 1, where the virus originated, to the lockdown of Wuhan on January 23, and to the implementation of the level I public health emergency response by local governments, the whole China was in a state of "collective closure" in the first quarter of 2020. In this context, the focus naturally falls on epidemic-related information, and people hope to learn about the spread of the virus through the number of confirmed infections, suspected infections, deaths, cured people, and relevant data of provinces, so as to judge their own environment and have a more accurate experience of news facts.

Online new media has become the main information acquisition channel for audiences due to its fast transmission speed, interactive and personalized characteristics. People learn about the epidemic through new media platforms that are frequently used in daily life, such as Wechat Moments, microblog and trill. However, we can see that these platforms are scattered in the "You made me a phrase" dissemination of epidemic information. There are scientific tips on epidemic prevention, interesting videos on epidemic prevention in different places, there are even anti-science rumors, such as "smoking helps fight viruses", which hinder and mislead the effective dissemination of information and violate the purpose of scientific communication.

It is urgent for the public to obtain the most direct information resources in the process of information consumption. Relying on Tencent news, the WeChat Official Account pushes "real-time updates of pneumonia epidemic" as a topic to the top of the public account. It integrates information related to the epidemic to domestic and international epidemic information, epidemic services and hotspot focus, and makes full use of charts, pictures, H5, MG animation and videos to visually express information and achieve effective dissemination of epidemic information. To some extent, it promoted the public to understand the epidemic and science communication, so as to participate in the modern science communication stage of communication, and it also provided reference for the content production and operation transformation of local government popular science public account.

1. The Current Situation of "Top and Push" Popular Science Information on Public Wechat in the Context of the Epidemic

1.1 User Scale Lays the Top Foundation

With the development of smart mobile terminals and the number of users, social programs with instant messaging function are popularized. According to CNNIC "China Internet Development

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Statistics Survey", as of June 2019, the scale of Instant messaging users in China reached 825 million, [1] accounting for 96.5% of the total Internet users. The number of mobile instant messaging users reached 821 million. Tencent-owned instant messaging platform WeChat and WeChat merge month have more than 1.151 billion active accounts. Based on its large active user base, wechat has been able to aggregate information resources and set top topics during the epidemic, attracting more than hundreds of millions of times of reading and tens of millions of people watching data. Therefore, it has also formed a positive interaction cycle of users' active forwarding and other information consumption, as well as increasing the number of users and enhancing user engagement, making it the top streaming platform for the release of information on the epidemic.

1.2 Intelligent Content Production

Wechat users can access it through two function Windows, namely the public Wechat account and Look at it. When they opened both Windows, they could see the words "Top Topic" marked orange. The primary topic of each day is the real-time situation of pneumonia epidemic, and the secondary topic is set according to the general trend of the epidemic on that day. Under the title, white characters on a blue background are used to display the data related to cumulative confirmed cases, new cases on a previous day and existing confirmed cases in the form of icons. Users can click the screen to enter hot topics, and through the drop-down menu, users can see the trend chart presented in the form of charts, relevant epidemic information, service link window, popular science videos and other columns.

In terms of data information collection that users are most concerned about, the top topics are updated according to the daily information released by national and local health commissions. In the past, information collection was done entirely by human resources. At the current rate of updates on top of the epidemic, new information is generated every hour. Therefore, information collection and application based on the Sensor of the Internet of Things, multi-language data collection and real-time translation, human-machine collaboration such as data news, intelligent image processing and intelligent editing in the artificial intelligence environment, greatly improve the accuracy of information production and transmission efficiency in the epidemic situation.

1.3 Visual Information

Visual expression includes Data journalism based on "algorithm", news narrative represented by short video realistic scene shooting, and a series of integrated media news products such as H5, MG and dynamic video produced by technical means.

The application and processing of data are becoming more and more common under today's technical means. Visualization of news content can be realized through data mining and displaying the association and pattern behind data. In the top news of the epidemic, the number of infected people, the number of cured people, the analysis of the epidemic at home and abroad, especially the epidemic map and other contents containing accurate numbers are converted into graphics or images by using computer graphics and image processing technology. Then, these information is placed in an important position on the overall push page, so that users can accurately and intuitively understand the epidemic information.

At the same time, short videos, volg and other live-action video content combined with other fusion media news means, greatly expand and enrich the content coverage of the top push page, making epidemic topic news of the visualized public account top topic show a state.

2. Characteristics of Popular Science Information Dissemination of “ Visualization”

Visual popular science information presentation mainly revolves around visual data news, short video and fusion media works.

2.1 Accurate and Efficient Information Processing

Data journalism is a trend of the visual development of today's journalism. Data analysis technology makes media pursue "precision". The process of visualization is the production of content that visually presents data and information using specific computer programs and design methods. In the top push of the hot spots of the epidemic on the official account, consultations including the trend of newly confirmed cases, data monitoring at home and abroad, and epidemic maps are presented in

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various forms, such as curves, bar charts, charts and maps. Users are locked in specific, intuitive and precise information push, and get an accurate overview of trends.

Intelligent news writing driven by technology, such as computer, conforms to the rapid, hyperlink and interactive audience demand in the new media environment, and the Internet citizens are more adaptive to the freedom of information processing of the data.

2.2 Diversified Audio-visual Expression

Whether it is loaded with PGC (Professionally-generated Content), or the user-supplied UGC (User-generated Content) content, the short visual frequency highlights the advantages of the scientific communication process. Popular content is often the quality of a certain information, such as introducing the new type of coronavirus, washing hands correctly, and how to wear a mask, which is suitable for the presentation of audio-visual information in a shorter period of time. Meanwhile, the content production mode of PGC+UGC stimulates the audience's participation, thus accumulating the number of short videos and activating the content platform.

In addition to the short video content constituted by live-action shooting, MG animation short video, H5 and other forms are used to present diversified visual information.

3. Local Popular Science Public Number Dissemination Dilemma

With the support of "algorithm", the visual popular science information conforms to the characteristics of news dissemination in the new media era and caters to the interactive use needs of users. However, public wechat operated by local governments and wechat with monthly active accounts of one billion can hardly achieve comparable communication effects in terms of voice, technology, number of users, content production and user feedback. Taking Shaanxi popular science public account as an example, the author analyzes it from the aspects of content production and content consumption.

3.1. Content Homogenization

From the point of view of time, Shaanxi Science Popularization official account released its first post about the novel coronavirus pneumonia on January 21, the initial stage of the outbreak in China, with a fast response speed. However, the content mainly quoteed network information such as Xinhuanet.com, People's Daily and CCTV news, and presented and introduced the virus from the perspective of medical research. The first tweet was read 1,449 times and had five valid comments.

From the time response, content quantity and page design of the official account, Shaanxi popular Science official account adjusted the push design more actively. However, from the perspective of content creation, the release of epidemic information mainly focused on the local epidemic data of Shaanxi and cited other network resources such as CCTV News, People's Daily and Dingxiang Doctor. The content of the website was similar to that of the Wechat Top Push website, and there was less independent creation and production, and the number of reading and message interaction was limited.

3.2. Content Consumption Lack of Personalization and Socialization

Restricted by the number of subscribers, limited self-made content and limited technical creation, Shaanxi popular Science official account presents a typical traditional communication mode of releasing information in the production of epidemic information. It is difficult to realize the characteristics of virtual community in Wechat platform which is mainly characterized by interaction and interaction. Community is a virtual social community formed based on interaction in a specific virtual space, fan-based content consumption will produce scale effect, thus expanding the influence of the official account.

4. In the Post-epidemic Era, Innovative Communication Paths of Local Popular Science Public Accounts

Shaanxi science popularization has few active users, limited self-made content and weak interaction ability, which is not only a problem faced by Shaanxi science popularization public account, but also a

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common problem faced by all local governments. As the domestic epidemic gradually stabilizes, the creation of public accounts will return to daily life. Under the communication framework of new media, the popular science accounts of local governments need to form a certain scale of fan gathering from content production, practice the concept of scientific communication, and realize the vision of improving citizens' quality of popular science.

One is to break the region, multidimensional content creation. In terms of a single region, the topic content pushed by Wechat public account has the characteristics of routine. Due to the constraints of data barriers, hardware conditions, quality and other factors, it is difficult to accurately push according to the concerned user groups. However, the popular science public accounts in different regions can realize the maximum sharing of resources from the aspects of content, capital ratio and user number in the way of cooperation and alliance. According to the advantages of projects in different regions, daily topics are pushed to PGC production of high-quality popular science content and attract a considerable amount of UGC content creation, and focus on exploring the development of MGC to form a three-dimensional and multi-dimensional content structure.

Second, multi-dimensional interaction between online and offline forms fans gathering. Timely design hot topics, form online preheating, offline interaction, form a three-dimensional interactive communication process of fan community, distribution of public account content and feedback to the topic again, build a set of communication ecology belonging to the public account itself, realize the fan community around the public account, form effective content consumption of popular science information.

5. Summary

Visual dissemination of popular science content is the inherent requirement of content production and consumption in the intelligent age. Science communication needs to adapt to its characteristics in the technology-enabled new media environment. In particular, the popular science communication platform of local government needs to integrate the advantages of traditional media, network media and other media platforms to innovate communication means. Visual elements such as visualized data information, short videos that can be loaded with audio-visual effects, and fused media content are used to jointly construct a new mode of popular science communication with personalized and interactive functions, so as to further bridge the digital divide and lay a foundation for the goal of "the proportion of citizens with scientific literacy exceeds 10%" in the development of science and technology innovation in China.

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