The Digital Heritage of Covid-19 's Governance: How to Upgrade and Use the "Health Code" in the Post-Epidemic Era

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Abstract

The outbreak of Covid-19 accelerated the practice of digital survival, and the "health code" launched based on the needs of epidemic prevention and control has become the representative of digital survival media, which is jointly built by science and technology enterprises and government departments. It has realized the full-state use in China, and accumulated long-term digital survival experience for the country, enterprises and individuals. At the same time, there are some media ethical problems in the use of Health Code, such as distinguishing users, leaking information, imprisoning the body and leading to the lack of subjects. In order to resolve the risk, we should re-examine the relationship between people and the media from the perspective of the subject, treat "health code" as a digital projection of personal health, and regain the service principle of digital technology. Humanize the "health code" and other digital media.

Keywords: Digital Identity, Digital Survival, Health Code, Media Ethics, Subjectivity.

Abstrak

Merebaknya Covid-19 mempercepat praktik kelangsungan hidup digital, dan "kode kesehatan" yang diluncurkan berdasarkan kebutuhan pencegahan dan pengendalian epidemi telah menjadi perwakilan media kelangsungan hidup digital, yang dibangun bersama oleh perusahaan sains dan teknologi dan departemen pemerintah. Hal itu telah menyadari penggunaan negara penuh di Cina, dan mengumpulkan pengalaman bertahan hidup digital jangka panjang untuk negara, perusahaan, dan individu. Pada saat yang sama, ada beberapa masalah etika media dalam penggunaan Kode Kesehatan, seperti membedakan pengguna, membocorkan informasi, memenjarakan tubuh dan menyebabkan kurangnya subjek. Untuk mengatasi risiko, kita harus memeriksa kembali hubungan antara orang dan media dari perspektif subjek, memperlakukan "kode kesehatan" sebagai proyeksi digital kesehatan pribadi, dan mendapatkan kembali prinsip layanan teknologi digital. Memanusiakan "kode kesehatan" dan media digital lainnya.

Kata Kunci: Identitas Digital, Kelangsungan Hidup Digital, Kode Kesehatan, Etika Media, Subjektivitas.

INTRODUCTION

The outbreak of Covid-19 in early 2020 is an important turning point for digital survival. The stringent requirements of epidemic prevention and control on population mobility have forced people's lives to be transferred online. Online learning, online meetings, online work and online consumption have become the normal life of most people in the first half of 2020. Absence brings a large number of immigrants to the digital space, and the curtain of digital survival officially opens and accelerates development.

First of all, the special needs brought by emergencies bring development opportunities for science and technology enterprises and accelerate the innovation of digital technology. Before the outbreak of Covid-19, China was already the country with the largest number of Internet users in the world. By June 2019, the number of Internet users in China had reached 854 million, of which mobile Internet users accounted for 99.1% (CNNIC, 2019). Strong online demand and a large number of Internet users have spawned new Internet applications and economic growth points after the outbreak of Covid-19. Technology enterprises have launched video office applications such as WeChat and Tencent conferences to facilitate online learning and telecommuting, and constantly update and optimize application systems in the teaching and working practice of the whole society, so as to accelerate the innovation of scientific and technological capabilities. On the other hand, the online live broadcast with goods ushered in new development opportunities, the contradiction between people's consumption demand and the lack of home isolation brings inspiration to the marketing way, and the live shopping economy accelerates the innovation of scientific and technological ideas.

Secondly, in order to meet the needs of epidemic prevention and control and economic recovery, the government issued policies to guide and support science and technology enterprises to accelerate the construction of a digital society. On February 4, 2020, the Office of the Central Cyber Security and Informatization Commission issued the Circular on doing a good job in protecting personal information and using big data to support joint prevention and control work, encouraging capable enterprises to actively make use of big data under the guidance of relevant departments to analyze and predict the flow of key groups such as confirmed diagnoses, suspects, and close contacts, so as to provide big data support for joint prevention and control work. On this basis, applications such as "health code" and "itinerary code" have become representatives of the cooperation between the government and science and technology enterprises to build a digital epidemic prevention system during the epidemic.

Finally, individuals become more adaptable and dependent on digital media, which leads to the acceleration of digital body evolution. From the perspective of human subject, Levinson believes that the media is evolving in the direction of "Humanization" (Levinson, 2007). In fact, the body also needs to evolve to adapt to the development of the media. As McLuhan said: "Any invention is an extension or self-amputation of the human body, which requires other organs and other extensions to produce new ratios and seek a new balance." (McLuhan, 2011). The epidemic has accelerated the development of digital media, the body has been extended while also making adjustments, constantly evolving to maintain synchronization and balance with digital technology.

"Health Code" is the product of the needs of Covid-19's epidemic control and the development of digital technology, and it is an important witness of the transition from 1.0 to 2.0. The process of its emergence, promotion, use and improvement has become a strong evidence of Covid-19's accelerated digital survival. At the same time, there are many problems in the use of "health code", which reflects many media ethical risks after the accelerated development of digital survival. The analysis and research with it as the fulcrum can better understand the positioning of individuals in digital survival, and reduce or even eliminate the "side effects" caused by media iteration and digital survival acceleration.

LITERATURE REVIEW

According to the Srinuan and Bohlin (2011), although the digital gap is not a new issue for academics and practitioners, its impact on society and economic development makes it an interesting research topic. The purpose of this study is to perform a literature review to determine the present state and direction of research in this field. The review includes 196 publications from 65 scientific journals published between 2001 and 2010 in three fields: (1) information technology and information systems, (2) economics and business and management, and (3) social science. Due to the influence of determining variables, the definition of the digital divide has now moved beyond access, according to a review of the literature.

Several reasons are discussed, along with their connections to the digital divide. Many recent research have taken into account social and psychological aspects. From an empirical and conceptual approach, several forms of ICTs were explored. The Internet is the most commonly researched technology. The investigation of the digital divide is a major research topic that is linked to the issue of e-government, ICTs index and e-readiness, and alternative technologies for bridging the digital divide, rather than being limited to the adoption and diffusion of ICTs, public policy and regulation, as has been the case in previous studies (Srinuan & Bohlin, 2011).

However, there are options for moving further with this research. The digital divide in access and usage was examined on three levels (global, social, and democratic) using a quantitative method (survey or data analysis) as the primary method. However, there was less debate in poorer nations and at the organizational level (Small and medium-sized enterprises, private sector, and government) Furthermore, qualitative research can be viewed as a complementary tool for filling gaps in present research. When it comes to policy options, the data reveal that spreading wireless technology or other alternative technologies can help close the digital gap, especially in developing countries. There were, however, few studies that reported empirical findings and analyzed effective conditions in greater depth. Furthermore, due to a paucity of comparison studies, new study on government intervention programs and integrated policies should be conducted (Srinuan & Bohlin, 2011).

METHOD

This study takes the health code as the center, describes it with the theories in the fields of Media Ecology and philosophy of technology, and introduces the background, program structure and use scene of the health code. At the same time, this study also focuses on the comparison between the epidemic prevention health information code in China and the Covidwise system in the United States, which shows the characteristics of health code and the possible media ethical problems through comparative analysis.

This research uses qualitative research. Qualitative is a type of research that uses words in presenting the data findings. Qualitative research is used to investigate, find, describe, and explain social influences that cannot be explained, measured, and described through a quantitative approach. Qualitative research is research that intends to understand phenomena about what is experienced by research subjects such as behavior, perceptions, motivations, actions, etc. holistically, and by means of descriptions in the form of words and language, in a special context that is natural and by utilizing various natural methods (Moleong, 2005).

Qualitative research builds knowledge through interpretation of multiple perspectives, from various inputs from all participants involved in research, not only from the researchers (Gunawan, 2016). Qualitative research has five assumptions, namely (Creswell, 2009), (1) reality is subjective and multiple; (2) the researcher interacts with the researched; (3) not value-free and biased; (4) informal, developing decisions, using personal words, using accepted words in qualitative; and (5) the factors identified together are reciprocal, dynamic design, context bound, theory developed to understand, reliability accuracy through verification.

RESULT AND DISCUSSION

THE USE OF HEALTH CODES

As an important means of digital survival in the epidemic situation of Covid-19, "Health Code" benefits from the joint construction of many parties, and its essence is digital public goods. The full name of Health Code is Personal Health Information Code; PHI-code, which is bound to the trusted certificate of resident identity network to express a sequence of numbers or letters in which the user authorizes others or organizations to access specific personal health information temporarily, and usually uses the QR code as its storage medium (China National Standardization Administration Commission, 2020). In the process of practical use, the components are "Personal Declaration", "Background Analysis" and "Final Code" (Yunfei, 2020). The "health code" integrates the user's identity, address, health status, activity trajectory, nucleic acid test results and other information needed for epidemic prevention and control, the data is comprehensive and accurate, and the use scene is diverse. On the other hand, the Covidwise system jointly launched by two technology companies, Apple and Google, is not comprehensive and mandatory. It only uses Bluetooth signals to obtain personal activity tracks, not only has no clear usage scenario requirements, but is only downloaded and used voluntarily by users in Virginia.

The information tracking of infectious diseases must be panoramic, and the "health code" achieves the transmission effect of full staff, full-time, full-time, holography and omniscience, which meets the special requirements of epidemic prevention and control. It also ensures the authenticity, profundity and full effectiveness of digital survival rehearsal. More importantly, unlike any previous vector form or application software, the use of "health code" is closely related to daily life, and it has become a part of people's lives during and even for a long time after the end of the epidemic. It has directly promoted the transformation of social communication habits, lifestyles and values. "Health Code" has also accumulated sufficient and long-term experience for digital survival, including the accumulation of digital government service capacity and digital governance experience at the government level, the accumulation of digital platform construction and digital media production experience at the social level, and the accumulation of digital knowledge learning experience and the ability to adapt to the digital society at the individual level.

Table 1. Differences in Applications of Epidemic Prevention between China and the United States

	Personal health information code (China)	Covidwise (United States)
Makers	Alibaba, Tencent, Chinese Government	Apple, Google
Principle of Action	Big data tracking	Bluetooth data tracking
Principle of Use	Compulsory use	Voluntary use
Data Content	Identity information, health status, activity trajectory, nucleic acid test results, etc.	Activity trajectory
Use Occasion	Cinemas, shopping malls, public transport and other public places	Not clear
Applicable Scope	China (mainland)	Virginia, USA

RISKS BROUGHT BY HEALTH CODE

Figure 1. The components of a Health Code

"Health Code" has built a high digital fence, and people who do not have access to technical media and digital knowledge are blocked out to become tramps in the digital age. Whenever a new technology appears, the digital divide will appear and deepen, and the acceleration of technological iteration accelerates the frequency of the digital divide and aggravates its social impact. In the early days, Health Code was integrated into apps and Mini Program on the platforms of Alipay and Mini Program, which required users to have personal mobile terminal devices and have already signed up for Alipay or Wechat accounts. This access requires that people without devices and accounts be directly excluded from the act of digital survival.

On the other hand, the automatic filling and signing-in processes needed in the use of "health code" affect and hinder the elderly, children and people with low educational level from participating in digital survival. Although some elderly people actively participate in the learning of digital technology and network knowledge, due to the long-term neglect of the needs of the elderly in the economic market and the discourse barriers constructed by the network culture at the cultural level. Although the elderly can touch the Internet, they have to face the reality of being "isolated" by technology (Shuang, 2020). When health codes become a standard for subjects to confirm whether they belong to the same community and become a symbol of community member (Le, 2020), "digital tramps" can only reduce the burden of digital survival by reducing social activities. to preserve its social dignity.

The "Health Code" in epidemic prevention and control contains two sets of contradictions: the contradiction between public interests and private rights and interests at the social level, and the right hierarchy contradiction between the right to health and the right to privacy at the individual level. Full-state use means full-state surveillance, and the more and longer the health code is used, the deeper the user will be monitored, and the higher the risk of improper use of personal information and privacy disclosure. According to the national standard of "personal Health Information Code data format", the data of personal health information codes include four types of "sensitive information", such as personal basic information, personal health information, itinerary information and health certificate information (China National Standardization Administration Commission, 2020). Once these information is leaked or misused, it is extremely easy to endanger personal and property safety or lead to damage to human dignity and discriminatory treatment (Wentao, 2018). In the digital society constructed by Health Code, it is difficult to strike a balance between the use of personal information and privacy protection, and it also violates the requirements of prevention and control in a state of emergency. Although the administrative organs have made clear provisions on data collection, storage and processing, they are not binding, and the public can only rely on the self-discipline of the developers behind the Health Code, while their worries and fears are difficult to dissipate.

In the process of digital survival, the media and the body interact with each other, and both sides seek a balance in the process of change and adaptation. However, the "health code" which appears in the state of emergency breaks the balance between the media and the body, and it is difficult for the body to keep up with the pace of the media, causing people to succumb to the media. For example, if a person goes to a high-risk area, the color of his "health code" will change, and he will be treated as an infected person and quarantined regardless of whether he has come into contact with a patient or has been infected with the disease. The Health Code and its digital living space imprison people's bodies and limit the scope of people's activities in the real space like shackles and cages.

HOW TO SOLVE THESE PROBLEMS

Neil Postman is regarded as the representative of the media environment school who takes a negative attitude towards the relationship between people and the media. In his book *Technology Monopoly: culture surrenders to Technology*, he warns: "any technology can think for us. This is one of the basic principles of the theory of technology monopoly. The so-called technology monopoly theory means that all forms of cultural life are succumbed to the domination of technology and technology." (Postman, 2019). This is the cry of humanism issued by media scholars in the era of vigorous development of technology. Levinson, his student, sublates Postman's theory to some extent. He believes that the purpose of our construction technology is not to directly improve the external environment, but to improve our understanding of the outside world (Levinson, 2007). This interpretation of the "humanization" of media technology shows human confidence in the context of the rapid development of science and technology. Since McLuhan, scholars of the Media Ecology School have been sending a signal that they should not get lost in the dream created by media technology. Human beings have always been the promoters and creators of technological development. In the process of interaction with the media, we should adhere to the subjective perspective.

First of all, on the issue of the relationship between man and the media, the media should be regarded as a part of human culture, and its characteristics should be analyzed by reviewing the history of its development and evolution in human society. Secondly, on the relationship between body and technology, technology should be regarded as the imitation and transformation of body function. Finally, extending to the digital age, when dealing with the relationship between real space and digital space in the practice of digital survival, we should regard digital space as the simulation and digitization of real space from the perspective of materiality and ontology. Its foundation and samples are still the physical world of reality.

From the perspective of the subject, the "health code" is actually a digital projection of the subject's health status, even if the presentation state has been alienated from the needs of epidemic prevention and control, or the deviation of the "projection" result has been caused by the immaturity of the technology. But its nature as a digital projection is clear. In other words, the "Health Code", as the main medium of digital survival, is not made up out of thin air, its physical foundation is the real body. Therefore, the Health Code should have three basic principles: 1. Uniqueness, the mathematical concept is introduced to explain that "health code" should be a mapping from digital space to real space, and any digital identity it represents can find the only corresponding real identity in the real space; 2. Traceability, on the basis of the principle of uniqueness, the "health code" should and must be traceable, which is also the inevitable requirement of epidemic prevention and control and digital survival; 3. Limited, that is, the "health code" does not cover all the data and information of the real subject, but only part of the outline projected by the subject according to the special needs. This can also minimize the infringement of rights caused by digital survival to the real subject.

Technology is an extension of natural life, derived from the human mind (Kelly, 2016), and it provides opportunities for everyone to surpass their unique gifts, to hear new ideas and opinions, to become different from their parents, and to create works on their own (Kelly, 2016). Therefore, serving the reality and goal needs of human beings is the purpose and driving force of the development of

science and technology. In dealing with the media ethical problems brought about by the "health code", we should return to the service principle of digital technology and humanize the technology within the scope of the existing technical conditions. In view of the difficulties in the operation of "health codes" for special groups, the design concept should be changed to serve the needs of special groups as the starting point. While simplifying the operation process, we can try to introduce the cooperation mode of relatives or friends to assist in information input and code scanning.

Second, aiming at the problem of personal information security, we can start from both technical and institutional aspects. Technically, blockchain and quantum communication technology can be used to ensure that information maintains high security in the process of collection, storage, transmission and use. In the system, highly authoritative professional organizations or government regulatory departments can be introduced as regulators of data use. Finally, in view of the problem of physical imprisonment and lack of subject caused by the use of "health code", we should adhere to the concept of the integration of real space and digital space, and make clear the use scene of "health code" in accordance with the principle of humanized service. Avoid real activity obstacles caused by "only health codes". In the future, the digital platform built by "Health Code" can still be continuously improved according to practical needs, providing people with differentiated and targeted services.

CONCLUSION

With the advent of vaccines and vaccination, the global spread of Covid-19 epidemic began to slow down. In China, the epidemic has been effectively controlled and the social economy has entered a period of full recovery, but this digital survival exercise brought about by the Covid-19 epidemic has not stopped. For more than a year, people have gradually accepted and adapted to online life at the conceptual level. Digital lifestyles such as cloud classroom, cloud conference and live streaming have been accepted and retained, and have become an important force in promoting social and economic development and change. In the future, the practice of digital survival will continue. Through the observation and analysis of "health code", we can find that digital media exists as the projection of individuals in digital space, no matter how the media technology develops, the dominant position of human beings can not be changed. Although people and the media need to adapt to each other to ensure the healthy development of the digital society, only on the basis of adhering to human subjectivity can there be creative achievements that meet the needs of human beings. Human beings should treat the development of media technology with more self-confidence and tolerance, understand, recognize and use its advantages to make it better serve human beings and help human beings better integrate into the life of the digital society.

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