Research on the influence of network broadcast room on fitness intention from the perspective of innovation diffusion

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Abstract: The appearance of "Liu Geng Hong girl" has brought webcast fitness into the life of Internet users. This paper will use in-depth interview and questionnaire survey to analyze the status quo of webcast fitness and the change of netizens' willingness to follow the webcast fitness, and try to explore the factors that affect the change of fitness willingness. The study found that the fitness intention of netizens was affected by the interaction enthusiasm of anchors, the quality of live broadcast and social topics did not affect it. The response of anchors to netizensis an important factor affecting the development of webcast fitness. In order to establish a fitness concept of the whole network, we must pay attention to the interactive training of anchors.

Keywords: Network broadcast, Network fitness, Innovation diffusion.

1 Introduction

In 2019, Novel Coronavirus suddenly emerged in China. With the development of the epidemic situation, electronic products have become an important tool in people's life. Mobile phones are indispensable for travel, office work and study. According to the 49th Statistical Report on Internet Development in China, the number of Internet users in China has reached 1.032 billion, and the average Chinese Internet user spends 28.5 hours on the Internet every week, and the audience's media dependence is deepening. At the same time, the network broadcast is strong, the network broadcast fitness categories are increasing. In 2022, Omicron caused repeated outbreaks in China, and Shanghai was shutdown for two months. In this context, Liu Geng Hong's webcast fitness has caused a large number of netizens to follow the dance, and there have been "Liu Geng Hong girl", the group of people who have committed murder for money and so on. Related topics have appeared in the hot search list of Weibo for many times, and network live fitness drives a large number of netizens to exercise. However, we have observed that the effect of webcast fitness is short-lived. With the disappearance of relevant topics, netizens'fitness will gradually disappear. Most netizens who follow the fitness trend will soon give up and switch to other hot topics. This led us to wonder: What are the factors that affect fitness intentions? How do these factors affect the changes of netizens'fitness intentions?

2 Literature Review

2.1 Literature review of network fitness communication

Network broadcast has aroused the academic research from multiple perspectives.

From the perspective of user psychology, Kati Dlaske (2017) analyzed online live broadcast and pointed out that audiences could express their emotions, participate in emotions and be mentally present through online live broadcast. Lottridge scholars analyzed online live broadcast of teenagers and pointed out that online live broadcast is the result of strong social relationship among teenagers. From the perspective of game research, Scholars Nascimento G, Ribeiro M and Cerf L analyzed network live broadcas and pointed out the rules of live broadcasting of game anchors on Youtube.

According to the academic research on the development of network broadcast, domestic network broadcast research can be divided into the following aspects: First, network broadcast as an application platform. By studying participatory culture in network broadcast, Wang Chunzhi concluded that the carnival of participatory culture triggered the trend of nationwide live broadcast. Scholar Zhang Min drew a conclusion that the network platform needs to be improved in many aspects by studying "Internet celebrities" in network broadcast. Second, the study of competition and cooperation between network broadcast and traditional media. Zhao Guohua pointed out that traditional media need to be changed by studying the development of traditional media in network broadcast. Scholars Zhou Yong and He Tianping studied the development of TV in network live broadcast and pointed out that TV live broadcast can learn from the development mode of network live broadcast. Third, the application research of network broadcast. Scholars Li Tianshu, Li Ling and Ge Songying pointed out that network live broadcasting is changing news production by studying news production in live broadcasting. Fang Bin, a scholar, pointed out that the live streaming of criminal court is a double-edged sword through his research on the live streaming of criminal court. Fourth, the standardization and governance research of network broadcast. Scholars Li Cuicui and Zhang Shuhua pointed out that the supervision mechanism was facing failure by studying the pornographic chaos and management mechanism in network live broadcast. Scholars Qu Tao and Jian Haiping, by studying the operation analysis and supervision strategies of live streaming, pointed out that there were many problems in the rapid development of live streaming, and put forward corresponding supervision suggestions.

However, although these studies have studied the network and sports, they have neglected the fitness aspect of network broadcast.

2.2 Literature review on innovation diffusion theory

Since Fred Rogers put forward the theory of innovation diffusion in 1962, scholars at home and abroad have paid great attention to it and obtained many research achievements. According to the research Angle, the research of innovation diffusion theory is divided into the following aspects. From the perspective of information communication, Samuel Thiriot studied the role

of word-of-mouth information in information search with the theory of innovation diffusion, and pointed out that information search plays a key role in the dynamic process of word-of-mouth communication. From the perspective of opinion leaders, Youngsang Cho et al. studied the communication effect of opinion leaders and pointed out that the characteristics of effective opinion leaders selected as initial adopters may vary with the characteristics of social networks and types of innovation. From the perspective of communication channels, Scholars Maureen Taylor and Danielle C.Perry studied the role of traditional media and new media in national crisis communication, and explored the role of organizations in crisis communication by using the Internet.

Domestic scholar Liang Qianlan combined the theory of innovation diffusion with the actual phenomenon of China's online live variety shows, and proposed that variety shows should pay attention to the improvement of content and technology, so as to attract more traffic and audience ratings. Cui Xiaoxiao, a domestic scholar, combined the actual phenomenon of China's inke live streaming platforms with the theory of innovation diffusion, and proposed that live streaming platforms should develop content supply, content supervision and content innovation. Zhang Yu, a domestic scholar, combined the actual phenomenon of online eating and broadcasting in China with the theory of innovation diffusion, and proposed that the higher the degree of dependence on the Internet, the easier it is to discover new things, and the re-dissemination behavior of individuals on social platforms will affect the audience's choice and judgment of online eating and broadcasting.

However, these studies did not study the phenomenon of online fitness live broadcast from the perspective of innovation diffusion theory, so they did not answer the questions about why the fitness propaganda effect of online fitness live broadcast did not achieve the desired effect, how fitness thoughts were lost from the audience's concept, and what factors affected fitness intention.

Therefore, this paper attempts to answer the following questions from the perspective of innovation diffusion theory:

What factors have changed the audience's willingness to exercise in network broadcast, leading to the audience only keeping fit in a short period of time? How do these factors affect the temporary propagation effect of webcast fitness?

3 Method

3.1 In-depth interview method

In-depth interview is a kind of direct, unstructured and personal interview, which is used to reveal the interviewees' potential motivation, belief, attitude and emotion about a certain problem or phenomenon. Simple observation may ignore the deep-seated psychological activities of netizens. In-depth interviews within a certain range can help researchers have a more comprehensive and in-depth understanding of netizens' groups and behavior practices.

The interview questions are divided into three parts.

The first part, mainly involves the basic information of the interviewees, including their

gender, age, education level, occupation and economic situation.

In the second part, the dimension of research questions is reduced to interview questions. Including their views on webcast fitness, their specific feelings about webcast fitness and the factors that affect their willingness to webcast fitness.

The third part,preparation, deals mainly with problems that may be dug deep.

According to the maximum sampling principle of qualitative research method, 10 fans will be randomly selected from Liu Geng Hong's Tik Tok account. When the 10th respondent is collected, all the interview content is enough to answer the research questions, and the sample collection is due. The respondents were different in age, occupation, education level, region and other aspects, with low degree of homogeneity.

The interview was conducted by text interview on WeChat. The interview results are compiled into verbatim draft, and the basic information of the interviewees is shown in the table 1.

Table 1 Information Sheet Of Interviewees

Gender	Age	Professional	Education Level	Monthly Income	
Respondent no. 1	female	21	Student	Undergraduate course	1500 the following
Respondent no. 2	female	20	Student	Undergraduate course	1500 the following
Respondent no. 3	male	21	Student	Undergraduate course	1500 the following
Respondent no. 4	female	22	Student	Undergraduate course	1500 the following
Respondent no. 5	female	24	Civil servant	Undergraduate course	6000
Respondent no. 6	male	22	Student	Undergraduate course	1500 the following
Respondent no. 7	male	21	Student	Undergraduate course	1500 the following
Respondent no. 8	male	22	Student	Undergraduate course	1500 the following
Respondent no. 9	female	22	Student	Undergraduate course	1500 the following
Respondent no. 10	female	23	Student	Undergraduate course	1500 the following

3.2 Questionnaire survey

3.2.1 Hypothesis establishment

Based on the above problems, corresponding hypotheses are proposed here:

H1: The higher the quality of live broadcast is, the higher the intention of online live broadcast is

H2: The higher the number of live social topics, the higher the willingness to live online

H3: The more active the anchors are in interacting with each other, the more willing they are to exercise in network broadcast

In order to prove the hypothesis, this study adopted the method of questionnaire survey, sampling the population and making questionnaires.

3.2.2 Sampling method

The research object of this hypothesis is the group that participates in the network fitness live broadcast.

First of all, we will make representative sampling of this group and select the netizens in the topic # Liu Geng Hong live as the research population. With 95% confidence interval and 3% sampling error, stratified and multi-level sampling is carried out for the sampling frame. 100 netizens were selected as a sample. If the encounter refused to visit the situation, then in order to find the next netizen for fill.

Data collection, collation and analysis were completed on July 21, 2022. The main contents of the survey are as follows: (1) Basic information confirmation: including age and gender. (2) Independent variable of live broadcast quality, live broadcast social topics and anchors'interaction. (3) Dependent variable of live broadcast fitness intention. The questionnaire contains 20 questions, including 18 single choice questions and 2 multiple choice questions. Questionnaires were distributed online.

4 Research Findings

4.1 The more active the host is in interaction, the more willing he/she is to exercise in network broadcast

Table 2 Analysis of variance

	7. The main reason why you participate in webcast fitness is (mean ± standard deviation)					F	p
	1.0(n=2)	2.0(n=13)	3.0(n=9)	4.0(n=14)	5.0(n=2)		
Live quality	8.50±2.12	9.00±3.81	9.78±2.54	7.50±2.47	10.00±0.00	0.996	0.423
Live social topics	6.50±0.71	6.23±3.00	7.89±1.83	6.29±1.73	9.00±0.00	1.425	0.246
Live interaction	5.50±2.12	4.08±1.55	4.67±1.22	4.71±1.27	6.00±0.00	1.230	0.316
* p<0.05 ** p<0.01							

The variance analysis of the three variables in the hypothesis, namely, the quality of live broadcast, the social topics of live broadcast and the positive response of anchors, and the willingness to participate in network broadcast shows that the first two hypotheses are not significant, indicating that the first two hypotheses are not valid. However, the third hypothesis

is significant, indicating that the third hypothesis is valid, that is, the more active the host is in interaction, the higher the fitness intention of network broadcast will be. The variance analysis of dimensionality reduction variables in the original data and willingness to participate in network broadcast shows that the positive response degree of anchors is positively correlated with willingness to participate, P =0.027<0.05.

This proves that live broadcast quality and live social topics have no influence on netizens'willingness to live fitness, and all netizens'choice of live fitness is mainly due to the active degree of interaction of hosts. Interviewees said: "Liu Geng Hong's online grading is very good, he can correct the wrong posture directly through the Internet and help me to work out properly." This proves that netizens choose to conduct live fitness instead of offline fitness or other fitness activities because of the openness and timeliness of the network broadcast platform. In network broadcast, everyone can be seen and can participate in the interaction of anchors through bullet screen or other ways to realize interpersonal communication in mass communication, which speeds up the diffusion of new things to a certain extent.

Table 3 Analysis of variance

	7. The main reason why you participate in webcast fitness is (mean ± standard deviation)					F	p
	1.0(n=2)	2.0(n=13)	3.0(n=9)	4.0(n=14)	5.0(n=2)		
18. Will you choose to participate in live fitness because of the number of live bullets?	3.00±1.41	2.54±1.20	2.67±0.87	2.64±0.74	3.00±0.00	0.177	0.949
19. Will you participate in webcast fitness because of whether the anchors respond positively to the audience?	2.50±0.71	1.54±0.52	2.00±0.71	2.07±0.73	3.00±0.00	3.128	0.027*
* p<0.05 ** p<0.01							

4.2 Webcast fitness publicity is influenced by mass communication and interpersonal communication

Webcast fitness promotion is influenced by websites, TV and other channels and the

participation of relatives and friends. Among the reasons for participating in live broadcasting, "multiple publicity from websites, TV and other channels" accounted for the most, accounting for 35%, followed by "participation driven by friends and relatives",accounting for 32.50%. In the interview, a similar situation appeared. The respondent said, "I was recommended by friends around me and followed the dance exercises with my friends. Later, As I went back home for the holidays and had no friends of the same age to dance with, I gradually gave up dancing. "Most of the interviewees participated in the network live fitness with the help of their relatives and friends. Mass media include multi-party publicity from websites, TV and other channels, and interpersonal communication is mainly driven by relatives and friends, which proves that online live fitness promotion is influenced by two aspects: mass communication and interpersonal communication. Among them, mass communication mainly conveys information, which is transmitted to innovators, early adopters, followers and laggard through mass communication media. In addition, the influence will flow from innovators to others behind, and the coverage of online live fitness will be continuously expanded through interpersonal communication.

Table 4 Frequency analysis results

name	options	frequency	The percentage (%)	Cumulative percentage (%)
7.The main reason why you participate in webcast fitness is	1.0	2	5.00	5.00
	2.0	13	32.50	37.50
	3.0	9	22.50	60.00
	4.0	14	35.00	95.00
	5.0	2	5.00	100.00
A combined	40	100.0	100.0	

4.3 Live broadcast quality, live social topics and live interaction will have an impact on netizens' willingness to live network fitness

The quality of live broadcast includes the speed of live broadcast, the picture of live broadcast, the ability of the host, the dry goods of live broadcast, the atmosphere of live broadcast, etc. The quality of live broadcast will affect the emotion of the netizens, thus changing the fitness intention of the netizens. Liu GengHong livestream fitness will create a relaxed and happy atmosphere in the livestream through the family discussions and honest conversations between Liu GengHong and his wife. This kind of atmosphere will affect the viewing experience of the netizens and the emotions of the netizens. Driven by this happy atmosphere, the netizens will tend to participate in the ceremony. Interviewe3 said: "Liu GengHong has a good atmosphere of livestream, I will unconsciously follow him to dance."

At the same time, the number of live social topics will also have an impact on netizens' fitness intentions, including the popularity of background music, the popularity of people involved in live broadcast, and the popularity of live broadcast platforms. Liu GengHong live selecting the songs of jay Chou as a jump hold, Liu GengHong's multiple identities and take the heat, participated in "where dad", starring in a MV, jay Chou is a singer, and star fitness coach, at the same time, the

main choice live platform is a trill, superposition of several big heat together to produce the high heat social topics. Interviewee No. 1 said: "I think it is to a certain extent, help me to the social, such as I will live with friends to lift this jump hold, heat itself is high also, we will discuss, published their own views, at the same time, they take the initiative to mention this topic, I will also be able to join in, be enriched my social topic, brought me some convenience, In turn, I will be more active in Liu GengHong's livestreaming dance." Most of the interviewees think that participating in Liu GengHong live dance will help them have more topics when communicating with others. If you bring up the topic yourself, others can weigh in. Similarly, if someone else brings up the topic, you can get involved.

Last but not least, live broadcast interaction will also have an impact on netizens' fitness intentions. Live broadcast interaction includes live bullet screen and anchor response, etc. In addition, Liu GengHong will read part of the Geng Hong livestream and will respond to it. And as respondent No. 4 said, "Liu GengHong's online grading is very good, he can correct the wrong posture directly through the Internet and help me to work out properly". The quality of live broadcast refers to the direct flow of visible information to netizens. Social topics and interactions of live broadcast need to go through multiple interpersonal communication links to influence netizens.

5 conclusion

This study through in-depth interviews and audience research these two methods of Internet users live gym intend to change the phenomenon of diffusion of innovation of theoretical research, trying to answer for what are the factors to change the audience webcast fitness will, cause the audience is just a short period of time to keep fitness, and how these factors affect the live webcast fitness problems of short communication effect. Through the study, it is found that the initiative of host interaction will affect the fitness intention of netizens, while the hypothesis of live broadcast quality and live social topics is not valid. This is mainly because the formation of netizens'willingness to live broadcast fitness is a two-way communication process between anchors and netizens. This study found that the interaction of anchors would have an impact on netizens'willingness to live broadcast fitness, reflecting the importance of training anchors in the phenomenon of live broadcast fitness publicity. On the other hand, it also proves that the mass communication and interpersonal communication of innovation diffusion theory are the most effective channels for people to adopt innovation in the context of network broadcast fitness in modern China. However, it is worth noting that this study also found that the phenomenon that the intention of webcast fitness is affected by the interaction of anchors may lead to uneven quality of webcast fitness, anchors broadcast fitness only for interaction, or webcast fitness becomes a decoration and other negative effects, which are worthy of vigilance and reflection. In the current study, however, because of less sampleselection, there are still many deficiencies in the research methods, in the future study, live online fitness researchers in the field of communication may need to pay more attention to the influence of the host for the live webcast fitness, and extend webcast fitness will influence factors research, to find the influence factors of more. Thus, the

network broadcast fitness has a deeper study.

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