A Study on the Transformation of Art Activities in the Metaverse -- A Case Study of the Bay Area Metaverse Art Festival

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Abstract: With the development of metaverse technology, the importance of metaverse technology in art has become increasingly apparent, which has also attracted the attention of the academic and industrial circles. These studies have not studied the phenomenon of audience's fondness for metaverse art activities from the perspective of the transformation of artistic activities under the metaverse context of the use and satisfaction theory. This paper will try to answer the question of why the metaverse art activities become popular after the transformation from this perspective. Questionnaire survey and interview method are used in this study, and it is found that the metaverse technology can meet the needs of the festival audience. It is found that the immersive experience technology features of metaverse technology can meet the audience's aesthetic appreciation and personal experience needs. The characteristics of open creative technology can meet the needs of audiences for rich cultural innovation experience. The technical characteristics of strong social attributes meet the needs of audiences to use new ways to socialize.
Key words: metaverse; the use and satisfy theory; art activities; arts festival; audience needs

1 Introduction

Since 2021, due to the impact of the COVID-19 epidemic, the time spent online in China has increased significantly, and online communication has gradually become normal. Due to the impact of epidemic prevention and control, people's lives are gradually migrating to the virtual world. In this context, meta-universe has become a hot topic at present, and related technologies are gradually mature in years of development. Artificial intelligence, big data, 5G communication and other continuous development and combination make the creation of meta-universe gradually become reality from imagination. Meta-universe technology is also widely used in the cultural industry, becoming the optimization of cultural industry experience and a key force for industrial breakthrough and innovation. We have observed that metaverse technology has been widely used in artistic activities, such as the cultural tourism project "The Dawn of Tang Dynasty" and "Metazoo", the online immersive drama "Sherlock Holmes - Bloody Birthday", and the upcoming "Sphinx - metaverse Drama Festival". The combination of the meta-universe and artistic activities has a good response. Its form is novel, unique and innovative, effectively meet the needs of the audience, so it is favored by the majority of audiences.

We are curious about this. Why can the Meta-universe Art Festival meet the public demand

and be loved by the public? How do these motivations influence the use of metaverse in art festivals, making them different from ordinary art festivals? What impact will the application of metaverse in art festival bring to the transformation of art activities?

2 Literature Review

2.1 Literature review on the transformation phenomenon of meta-cosmic art activities

The application of metaverse in artistic activities has caused many researches in academia. Garrett Lynch, a foreign scholar, analyzed from the perspective of artists in 2012 and pointed out that metaverse art works promoted the development of space and place concepts related to identity. (Lynch.2012) Authors Shafagh Hadavi, Kody G Kennedy, Geneva Mariotti, and Joseph F X DeSouza studied how immersive art exhibitions affect audience emotions during epidemics in 2022. It is suggested that immersive art exhibitions can be useful and accessible interventions to improve audience mood. (Hadavi, Kennedy, Mariotti, & DeSouza,2022) In 2023, foreign scholar Luca Turchet analyzed from the perspective of musical meta-universe and proposed that musical meta-universe can create a better virtual environment and benefiter-related musical interaction. (Turchet,2023) Foreign scholars Seol Hwang and GeunWoo Koo studied studied meta-cosmic art marketing in terms of the audience's experience of cosmic art performances, suggesting that aesthetics has a significant impact on performance viewing. (Hwang& K. 2023)

In 2022, Chinese scholars Yang Lu and Jiang Hongli conducted a more detailed study on the development perspective of Chinese drama under the meta-universe, and discussed the development space and thinking revolution of Chinese drama extended from the perspective of the meta-universe. (Yang & Jiang.2022) Chinese scholar Chen Yiben in 2022 analyzed the metaverse from the perspective of its integration into the creation and impact of variety shows, concluding that the emergence of metaverse has positive implications for both the variety show market and the development of metaverse related industries. (Chen.2022) In 2023, Chinese scholar Chen Ruhua studied from the perspective of the application of metaverse technology in the performance space, thinking about the opportunities and challenges of the performance space culture in the context of the metaverse. (Chen.2023)

2.2 A literature review of use and satisfaction theory in the transformation phenomenon of metaverse art activities

The theory of "use and satisfaction" originated in the 1940s and was first put forward by the American sociologist Katz. It has been highly concerned by scholars at home and abroad and has achieved a lot of research results.

Foreign scholars Md. Hossain, Minho Kim, Can Liking Behavior Lead to Usage Intention on Facebook? Uses and Gratification Theory published by Nusrat Jahan in 2019, combines the use and satisfaction theory with the subjective norm to create a comprehensive model, and the results of which lay the foundation for the use and satisfaction of the theoretical and subjective norm

models. (Hossain, Kim,& Jahan, 2019) Foreign scholars Myung Ja Kim , Choong-Ki Lee , and Noshir S. Contractor published Seniors' usage of mobile social network sites: Applying theories of innovation diffusion and uses and gratifications in 2018, a study of the phenomenon of older adults' use of social networking sites and mobile devices for communication, concludes that uses and gratifications theory has a greater impact on authentic experiences. (Kim, Lee, & Contractor, 2019)

Lai Yongqiang, a Chinese scholar, concluded in an Analysis of Enabling User Connection through Mainstream Media Application Innovation -- Based on the perspective of "Use and Satisfaction" Theory published in 2023 that applying innovation works attracts users and meet part of their needs. (Lai.2023) Domestic scholars Yue Mengyi and Wang Baohua, in their Research on the Use of Short Video by College Students under the Theory of Use and Satisfaction published in 2023, believe that in short video platforms, multiple content meets the cognitive needs, and audio-visual language meets the entertainment needs, and quasi-social interaction meets the emotional needs, and self-presentation meets the identity needs. (Yue & Wang.2023)

However, these studies do not examine the phenomenon of audiences' love of metaverse art activities from the perspective of the transformation of art activities under the use and satisfaction theory in the metaverse, and therefore do not answer the question of why metaverse art activities are loved by audiences after the transformation.

2.3 Problem Raising

Therefore, this paper will try to answer the following questions from the use and satisfaction theory: What aspects of the Metaverse Art festival meet the needs of the audience? How do these aspects distinguish the Metaverse Arts Festival from ordinary arts festivals? What are the needs of the audience watching the Metaverse Art Festival that are different from the ordinary art festival? What kind of influence will the application of metaverse in the transformation of art festival bring to the audience group?

3 Research Methods

3.1 Questionnaire survey method

3.1.1 Hypothesis Establishment

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

H1: The immersive experience technology features of metaverse technology meet the audience's aesthetic appreciation and personal experience needs. (Tang & Liu 2023)

H2: The virtualized bilocation technology features of metaverse technology meet the audience's need to establish a new identity in the virtual world. (Guo, Yuan, Li & Ma 2023)

H3: The strong social attribute of metaverse technology meets the needs of audiences for social interaction in new forms.

H4: The open creation technology features of metaverse technology meet the needs of audiences for rich cultural innovation experience.

In order to prove the hypothesis, questionnaire survey method was adopted in this study to sample the population and make questionnaires.

3.1.2 Sampling method

The corresponding research object of this hypothesis is the audience group of the Bay Area Metaverse Art Festival. First, we take a representative sample of this group and select the students of Xinghai Conservatory of Music as the research population. Secondly, we compile an overall sampling frame based on individual students. Thirdly, we conducted stratified multilevel sampling of the sample frame with 95% confidence interval and 3% sampling error. A sample of 202 students were selected. If our request is rejected, the next student in the order is found.

Data collection, collation and analysis were completed on April 7, 2023. The main contents of the survey are: (1) Confirmation of basic information, including grade, gender and department. (2) the reduced sentence part of the independent variable X and (3) the reduced sentence part of the dependent variable Y. This questionnaire contains 15 questions, including 11 single choice questions, 2 multiple choice questions and 2 fill-in-the-blank questions. The author uses a combination of online and offline methods, through WeChat friend circle, Qzone, Questionnaire Star sample library and offline distribution.

3.2 Interview method

3.2.1 Interview outline making

The interview questions are mainly divided into three parts.

The first part mainly involves the basic information of the interviewees, including their gender, grade and major.

In the second part, the research questions are reduced to interview questions. These included their views on the Metaverse Empowering Arts event, their views on the Bay Area Metaverse Arts Festival, what parts of the Bay Area Metaverse Arts Festival they were impressed with and why, how they thought the Metaverse Arts Festival brought different feelings from regular arts festivals and why, and what they thought about the future development of the Metaverse Empowering Arts Festival.

In the third part, the author prepares the questions that mainly involve possible deeper digging.

It includes interview's opinion on the difference between the feelings brought by the Metaverse Art Festival and the ordinary Art Festival and the reasons, and his opinion on the future development of the meta-universe empowerment Art Festival.

In the process of interviews and research, researchers tried to avoid the four-fold ethical problems and deviant behaviors emphasized by scholar Al-an Bryman: (1) damage to the participants; (2) No use of informed consent license documents or materials; (3) violating the privacy of study participants; (4) deceiving study participants. In addition, if the interviewees

have any unwilling questions or dissatisfaction during the interview, they can keep silent or quit midway. The interview materials that the respondents declared that they did not want to be published were not included and quoted in this study.

3.2.2 Selection of interviewees

This study conducted a 5-minute semi-structured in-depth interview with 10 interviewees from Xinghai Conservatory of Music. The interviews began in April 2022 and ended in April 2022. Interviewees included first xx and secondly a larger research sample was recruited through xx.

According to the principle of maximum sampling of qualitative research method, all the interview contents were enough to answer the research questions when the 10th respondent was collected, and the collection of samples was limited. The respondents were different in grade, department and other aspects, and the degree of homogeneity was low.

The interviews were conducted by wechat text interview and one-to-one face-to-face interview. The interview results were compiled into a verbatim manuscript with a total of 4,680 words. The processing of interview content is completed by the author. The basic information of respondents is shown in the table1.

Table 1 Basic information of interviewees

No.	Gender	Grade	Department	Whether participate in Bay Area Meta Universe Art Festival
1	Male	2020	Art management	Yes
2	Male	2020	Art Management	No
3	Female	2020	vocal Opera	No
4	Male	2019	music education	Yes
5	Female	2021	art Management	Yes
6	Female	2020	music education	Yes
7	Female	2022	art management	Yes
8	Male	2020	art management	Yes
9	Female	2020	art management	Yes
10	Female	2021	music education	No

4 Research findings and discussion points

4.1 Description of sample characteristics of questionnaire survey

Among all 202 valid samples, 53.47% were male and 46.53% were female. From the perspective of the distribution of departments, the sample distribution is fairly balanced, and the following four departments account for a large number of samples: 55 from the Department of Art

Management, 50 from the department of Music Education, 48 from the department of vocal music and Opera, and 45 from the School of modern Music. The respondents who have had contact with the metaverse account for 51.98%, which is basically balanced with those who have not. Among the 202 respondents, 63.86 percent said they had seen art festivals and other related activities. From the perspective of whether they have participated in the metaverseart activities, the majority of the samples have participated in the metaverseart activities, with a total of 184, accounting for 91.09%. Among the participants, the results show that 53.68% are willing to participate in the meta-universe Art Festival.

4.2 Research findings and discussion points of interview method

4.2.1 Immersive experience meets the audience's aesthetic and personal experience needs

The author believes that the immersive experience technology features of metaverse technology can meet the audience's aesthetic appreciation and personal experience needs, and this hypothesis is valid. The study found that, to meet the viewing needs, the most representative feature of the Metaverse Art Festival is immersive experience technology such as the naked eye 3D. 28.42% of respondents fully agree to this, and 42.11% of respondents basically agree it meets their viewing needs. It can be seen that most interviewees' viewing needs have been met, but the impact and degree are not high, and the degree of satisfaction is the lowest compared with other needs. VR virtual reality and naked eye 3D technology are the most representative features of the festival to meet the needs of hands-on experience. 36.32% of respondents fully agree with this. 38.42% of respondents basically agree with that. It can be seen that most interviewees' demand for personal experience has been met, and the impact and degree are higher than the demand for viewing. Interviewees generally think that the immersive experience technology of the metaverse is impressive. In terms of artistic expression, the immersive experience technology such as the naked eye 3D of the Metaverse Art Festival impresses the audience deeply. The interviewer thinks that “what impressed the Bay Area metaverse most is the public service platform of" Tianhe Metaverse ", which people can enter in and create their own digital identities by scanning the QR code. Its simulation design is from Tianhe City, where there is a cloud art museum that is not closed for 24 hours. Let more people get involved to understand and experience the wonders of the meta-universe.” Through the use of immersive experience technologies such as "Cloud Art Museum", participants have satisfied the audience's aesthetic viewing needs and personal experience needs, but the impact of the Metaverse Art Festival on users' viewing needs to be improved.

4.2.2 Virtual bilocation technology meets the needs of audiences to establish new identities

The author believes that the virtual bilocation technology features of metaverse can meet the needs of the audience to establish a new identity in the virtual world, but this assumption is not true. It is found that the online metaverse space of the Metaverse Art Festival is the most representative feature to meet the needs of new identity establishment. 32.11% of respondents

fully agree with this, and 35.26% of respondents basically agree with that. It follows that most identity building needs are met, but also through the meta-universe, to a lower degree than social needs. The interviewer believes that the festival's virtual space "Tianhe Metaverse" public service platform gives the audience the need to participate in the meta-universe and create their own digital virtual identity. "What impressed me most about the Bay Area Metaverse was the "Tianhe Metaverse" public service platform, which can be accessed by scanning a QR code to create your own digital person." "I was impressed by the "Tianhe Metaverse", which has many ways to play and virtual spaces, such as live singing, social interaction, games and entertainment, digital collections, and crowdsourcing tools that operate online 24 hours a day, building a "cloud-based art museum" for global audiences. ". Through participating in the virtual space of "Tianhe Metaverse", the participants satisfied their needs to establish new identities in the virtual world, but from the interview results, the construction level of the online meta-universe space was not enough to fully support the establishment of new identities for the audience and did not fully meet the needs of the supporting facilities after the establishment of new identities. Compared to the satisfaction of social needs, the level of satisfaction for the establishment of new identities is lower, which may also be related to the short duration of audience participation in the festival.

4.2.3 Technology with strong social attributes can meet the needs of audiences for communication in new forms

The author believes that the strong social attributes of metaverse technology meet the needs of audiences for social communication in new forms, and this hypothesis is valid. The study found that the online metaverse space of the metaverse Festival is the most representative feature of meeting the need to socialize with others in a new form. 40% of respondents fully agree, and 31.58% basically agree and only 6.84% completely disagree with that. It can be seen that the needs of most interviewees have been met, and the needs of this new form of social interaction are more highly regarded than other needs. Participants communicate with other participants by entering the online metaverse space platform. Compared with face-to-face communication, the communication on the metaverse space platform impressed the participants with its novelty and interest. "What I find new is the Tianhe Metaverse platform, which has a lot of gameplay and virtual space. Unlike offline face-to-face communication, I find the interaction with friends and strangers on the new platform is a wonderful experience." It can be seen that metaverse technology meets the needs of audiences for social interaction in new forms, and compared with other needs, we find in the research results that the degree of demand for social interaction in new forms is higher.

4.2.4 Open technology activates the initiative of cultural innovation of the audience

The author believes that the open creation technology features of metacosemical technology meet the needs of audiences for rich cultural innovation experience. It is found that the virtual host and virtual world are the most representative features of the festival to meet the expectation of cultural innovation products. 34.21 percent of respondents fully agree with this, and 34.74 percent of respondents basically agree with this. It can be seen that the expectation of most interviewees has been met, but the degree of expectation is not very high. Participants were able to watch the program with a live host and a virtual host, including other technologies that were new to the festival compared to regular festivals. According to the interviewer, "The difference between

metaverse art and ordinary art festivals is that in the metaverse world there are more forms of expression and lower limitations than in ordinary art festivals, and naked eye 3D, virtual hosts, etc. can have a more novel atmosphere for artistic expression." "Ordinary art festival type is more common, there will not be too many technological factors, so I feel that the general process is clear. Whereas the metaverse arts festival is novel, something new outside of the field I'm involved in, so it will be doubly exciting to me." This shows that metaverse technology has injected new vitality into the festival and brought cultural innovation experience to the audience, basically satisfying the audience's need to watch the metaverse festival for a rich cultural innovation experience. The majority of the audiences support the combination of metaverse technology and the festival. With the development of technology and social progress, the integration of metaverse and art activities is a trend for the audiences, and the audiences' acceptance of metaverse art activities is increasing, and they also hope that the addition of metaverse technology can bring more development space and innovative works for art.

5. Summary and reflection of this research

Through questionnaire survey, this study studies the transformation phenomenon of art activities in the meta-universe with the theory of use and satisfaction, trying to answer which aspects of the meta-universe Art Festival meet the needs of the audience, and how these aspects make the meta-universe Art Festival different from ordinary art festivals. What are the needs of the audience watching the Metaverse Art Festival that are different from the ordinary art festival? What kind of influence will the application of metaverse in the transformation of art festival bring to the audience group of the transformation of art activities?

The research finds that the immersive experience technology features of metaverse technology meet the audience's aesthetic appreciation and personal experience needs, but from the research results, the impact of metaverse immersive experience technology needs to be improved, which can be solved by developing some new art experience projects and improving immersive experience technology. The open creative technology features of metaverse technology meet the audience's demand for rich cultural innovation experience, and most of the audience support the combination of metaverse technology and art festival, believing that this integration can inject more vitality into the art festival. The strong social attribute of metaverse technology satisfies the audience's demand for social communication in new forms, and the degree of demand for this demand is higher than others, which is a very novel experience for the audience. However, the virtual bilocation technology features of the metaverse technology do not meet the audience's demand for establishing a new identity in the virtual world. This is mainly because the construction level of the online metaverse space in the art festival is not enough to fully support the audience to establish a new identity. It may also be related to the duration of the art festival and the time participants participate in the activities. In this way, the supporting facilities of the metaverse space platform can be improved after the establishment of the new identity, so as to attract users to increase the use time and enrich the user experience.

This study puts forward the question of the influence of metaverse technology on the transformation of artistic activities and reflects the development of metaverse technology in artistic activities. On the other hand, it also provides ideas about the audience for the development

of the meta-cosmic art activities in the artistic and cultural context of modern China. However, it is worth noting that this study also found that the meta-cosmic art activities will also bring some negative impact on some traditional performance methods, which is worthy of vigilance and thinking.

However, in terms of theoretical analysis, this study is still lacking in the use and satisfaction theory to analyze the results. In the aspect of questionnaire survey, due to the reasons of time and sampling, the scope of survey and sampling and the collection of results are still insufficient. In the interview method, some questions set by the research institute are not closely related to the research topic. In future studies, researchers in the field of art activities may need to pay more attention to the phenomenon of the application of the meta-universe in art activities, as well as to expand the research and practice of the meta-universe art activities.

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Appendix 1 Questionnaire survey data analysis report

1.Statistical analysis of the basic information of interviewees

1.1 Gender

In all 202 valid samples, the gender ratio was balanced, with 53.47% male and 46.53% female.

Figure 1 Gender



1.2 Department

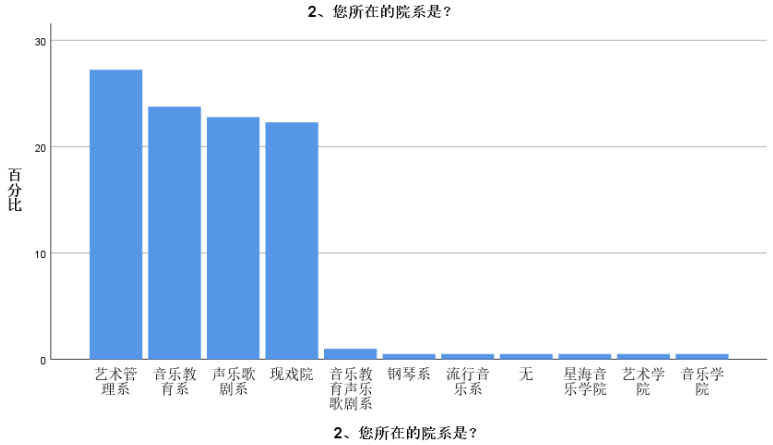
Since metaverse art activities involve more professional knowledge, this study is also aimed at students with certain professional foundation. Therefore, the questionnaire was distributed in Xinghai Conservatory of Music, and the majors of the interviewees were counted. The results showed that art management department accounted for the highest proportion of 27.2%, followed by music education department accounted for 23.8%. The third and fourth are the department of

vocal music and opera and the theater, accounting for 22.8% and 22.3% respectively.

Table 1.2.1 What department are you in?

		frequency	percentage	Effective percentage
effective	Arts Management	55	27.2	27.2
	Music Education	48	23.8	23.8
	Vocal Opera	46	22.8	22.8
	Academy of Modern Music and Drama	45	22.3	22.3
	Music Education Vocal Opera Department	2	1.0	1.0
	Piano Department	1	.5	.5
	Department of Popular Music	1	.5	.5
	None	1	.5	.5
	Xinghai Conservatory of Music	1	.5	.5
	School of Art	1	.5	.5
	School of Music	1	.5	.5
	Total	202	100.0	100.0

Figure 1.2.2 What department are you in?



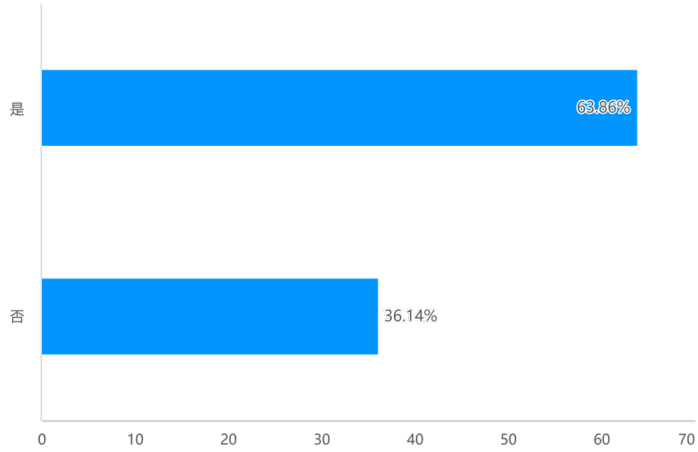
2.Analysis of the understanding of metaverse art activities

2.1. Learn about the Art festival

In order to better investigate the respondents' understanding of the metaverse art activities, we

also investigate the respondents' understanding of the art festival. Among the 202 respondents, 63.86 percent said they had seen art festivals and other related activities.

Figure 2.1 Learn about the Art festival



2. 2 Metaverse understanding

Another important element of this meta-universe art activity is the "metaverse", so the respondents' knowledge of the metaverse was also investigated. Among them, the respondents who have had contact with the metaverse account for 51.98%, which is basically balanced with those who have not. Therefore, this metaverse art activity is the first time for some interviewees to contact the metaverse, so they can obtain the cognition of the metaverse from this art activity.

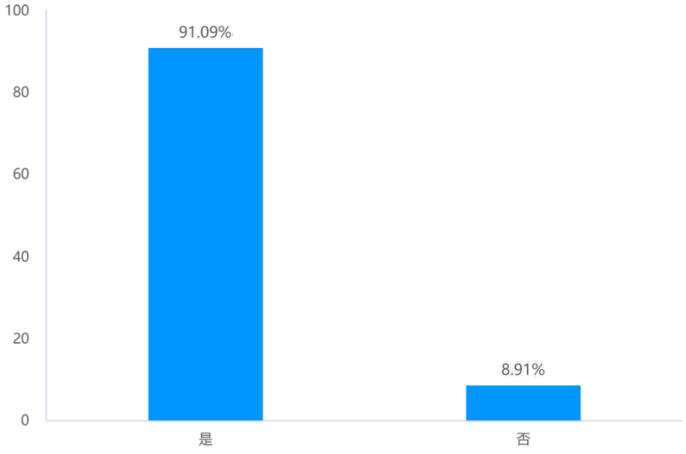
Figure 2.2 Metaverse understanding



2.3 Participation in metaverse art activities

This survey also surveyed whether the respondents had participated in the metaverse art interaction in the past, and most of them had participated in the metaverse art interaction, including but not limited to the metaverse concert, metaverse art exhibition and so on. This result also helps the interviewees to compare their past participation experience with this activity, so that they can better understand the new cognition gained through this metaverse art activity.

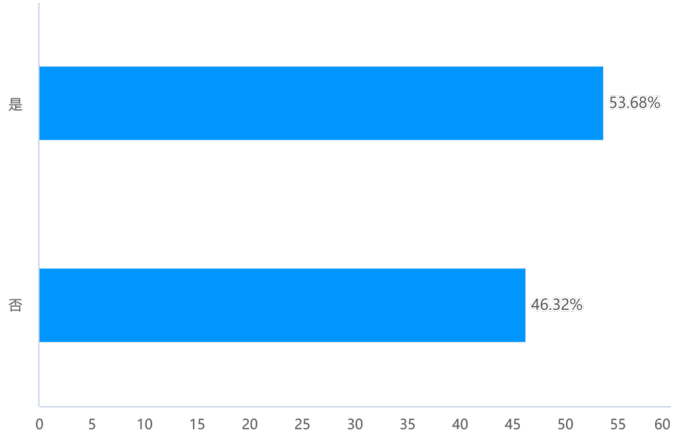
Figure 2.3 Participation in meta-universe art activities



2.4 Willingness to participate

As for whether they are willing to participate in the Metaverse Art Festival, the survey results show that 53.68% of the respondents have the intention to participate in the Metaverse Art Festival, and 46.32% of the respondents have no intention to participate.

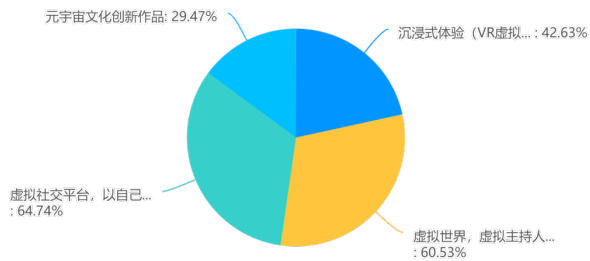
Figure 2.4 Willingness to participate



2.5 Knowledge of the Metaverse Art Festival

In order to investigate the audience's needs for the Metaverse Art Festival, the respondents were surveyed on what contents the Metaverse Art Festival should have. Among them, "virtual social platform, where one's virtual identity is used to socialize with others" accounted for the highest proportion, 64.74%. The second is "virtual world, virtual host, virtual idol, establish each audience exclusive virtual identity", accounting for 60.53%. The third is "immersive experience (VR virtual reality, naked eye 3D and other technologies)", accounting for 42.63%; The lowest figure was 29.47 percent.

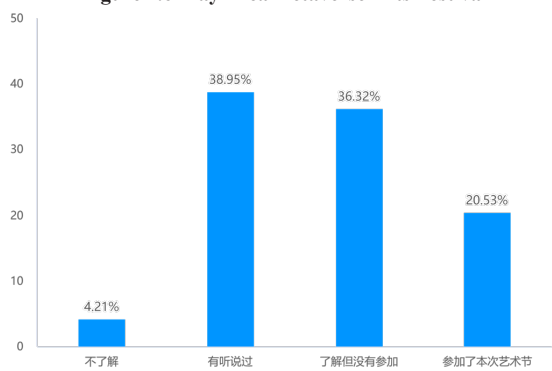
Figure 2.5 Knowledge of the Metaverse Art Festival



2.6 Bay Area Metaverse Arts Festival

As for the case study of the Bay Area Metaverse Art Festival, the respondents' understanding was investigated. Among them, 38.95% have heard of it but did not attend it, 36.32 know about it but did not attend it, and 4.21% do not know about it. Only 20.53% of respondents participated in the festival.

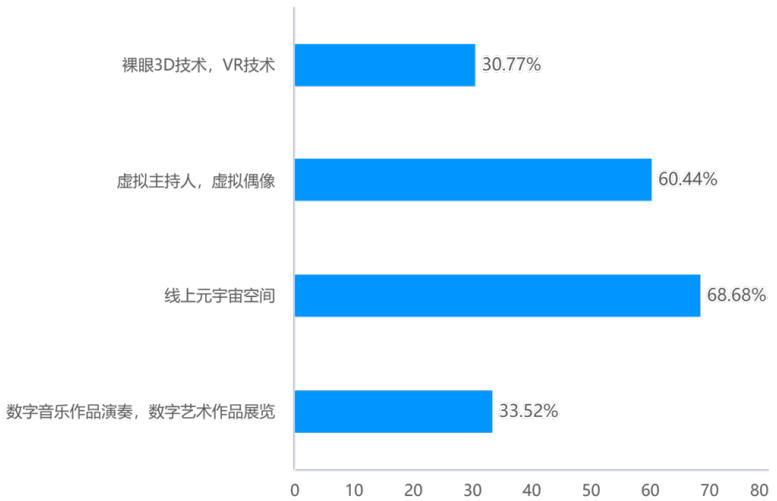
Figure 2.6 Bay Area metaverse Arts Festival



2.7 Focus on the Bay Area Metaverse Art Festival

The 202 respondents had different views on the focus of the Bay Area Metaverse Arts Festival. Among them, "online metaverse space" was the most interesting, accounting for 68.68%, followed by "virtual host and virtual idol" accounting for 60.44%. The respondents' concerns are relatively concentrated, which can be used as a reference in the future Metaverse Art Festival.

Figure 2.7 Focus on the Bay Area Meta-Universe Art Festival

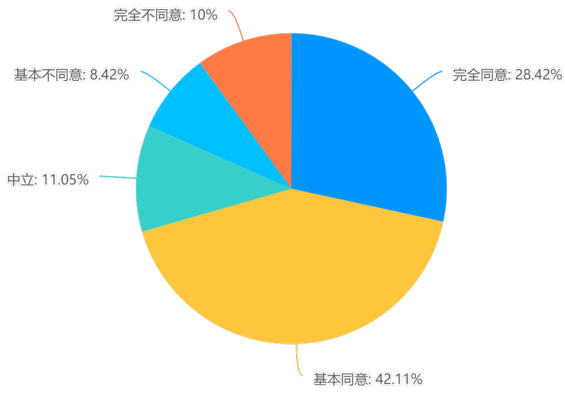


3 Investigation and analysis of audience satisfaction of the Metaverse Art Festival

3.1 Satisfy the viewing needs of the art festival

To meet the demand for viewing, the most representative feature of the festival is the immersive experience technology such as the naked eye 3D. 28.42% of respondents fully agree to this, and 42.11% of respondents basically agree to meet the viewing needs. It can be seen that most interviewees' viewing needs have been met, but the impact and degree are not high, and the degree of satisfaction is the lowest compared with other needs.

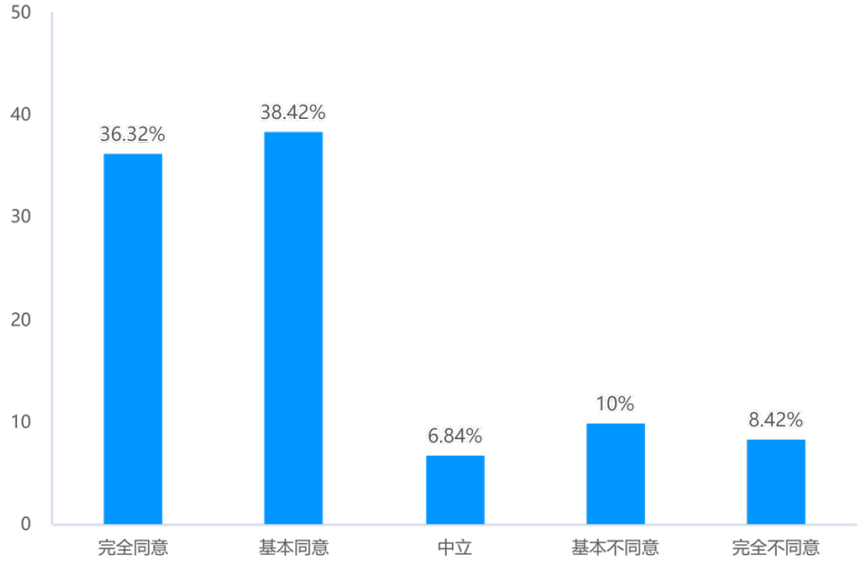
Figure 3.1 Satisfy the viewing needs of the art festival



3.2 Satisfy the demand for personal experience

VR virtual reality and naked eye 3D technology are the most representative features of the festival to meet the needs of hands-on experience. 36.32% of respondents fully agree with this. 38.42% of respondents basically agree with the satisfaction of viewing needs. It can be seen that most interviewees' demand for personal experience has been met, and the impact and degree are higher than the demand for viewing.

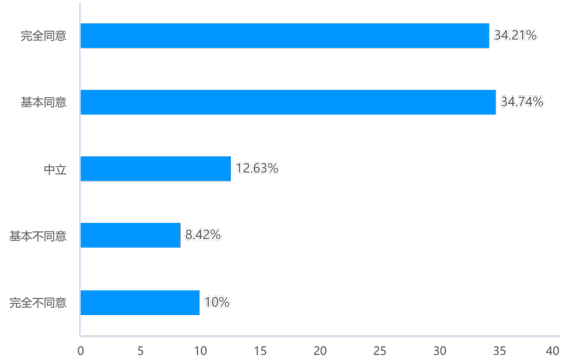
Figure 3.2 Satisfy the demand for personal experience



3.3 Meet the expectation of cultural innovation products

For meeting the expectation of cultural innovation products, the virtual host and virtual world are the most representative features of the festival. 34.21 percent of respondents fully agree with this, and 34.74 percent of respondents basically agree with the satisfaction of viewing needs. It can be seen that the expectation of most interviewees has been met, but the degree of expectation is not very high.

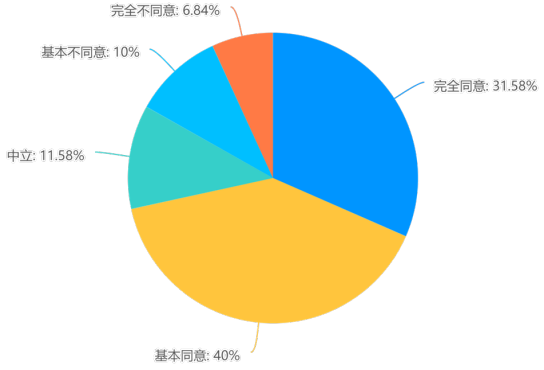
Figure 3.3 Meet the expectation of cultural innovation products



3.4 Satisfaction of the need to socialize with others in new ways

For meeting the need to socialize with others in a new way, the metaverse Festival's online space is its most representative feature. 40% of respondents fully agree. 31.58% basically agree and only 6.84% completely disagree with it. It can be seen that the needs of most interviewees have been met, and the needs of this new form of social interaction are more highly regarded than other needs.

Figure 3.4 Satisfaction of the need to socialize with others in new ways



3.5 Meet the requirements for establishing new identities in virtual space

For meeting the needs of new identity establishment, the online metaverse space of the metaverse Art Festival is its most representative feature. 32.11% of respondents fully agree with this, and 35.26% of respondents basically agree with it. This shows that most of the identity building needs were satisfied, but to a lesser extent than the social needs. Therefore, it can be tentatively concluded that the level of online metaverse construction in the festival was not sufficient to fully support the audience to establish new identities, but this may also be related to the short duration of the festival.