

## Research Article

# Study on the Design of Consumption Motivation of Virtual Idol of Generation Z under the Perspective of Experience Economy

You You<sup>1</sup>, Boyi Song<sup>2,\*</sup>, Ran Chen<sup>2</sup>

<sup>1</sup> School of Arts, Northwest University, 710100 Xi'an, China

<sup>2</sup> School of Design, Guangxi Arts University, 530000 Nanning, China

\* Corresponding author: 20231112513@stu.gxau.edu.cn

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## Abstract

With the deep integration of digital technology and the cultural tourism industry, virtual idols have emerged as innovative cultural symbols that are progressively reshaping online cultural tourism experiences. These digital entities are becoming a pivotal medium for engaging Generation Z audiences. This study investigates the characteristics and motivations underlying Generation Z's consumption behaviours in cultural tourism exhibition scenarios involving virtual idols. Grounded in the integrated framework of the Technology Acceptance Model (TAM) and experiential economy theory, we employ a mixed-methods approach combining quantitative questionnaire surveys with qualitative in-depth interviews to analyse behavioural patterns and intrinsic motivations. Our findings reveal three dominant consumption traits among Generation Z: interaction preference, symbolic consumption, and social sharing. These behaviours are primarily driven by emotional connection needs, self-expression aspirations, and technology-mediated novelty-seeking experiences. Importantly, the study identifies a unique synergistic effect between virtual idols' anthropomorphic characteristics and the immersive design of cultural tourism environments, which collectively enhance consumers' perceived experiential value, particularly in scenarios involving cultural heritage interpretation. These insights provide both theoretical frameworks for academic research and actionable strategies for industry practitioners to innovate virtual idol applications and refine youth-oriented marketing in cultural tourism.

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## 1. Introduction

In the context of the integration of digital technology and popular culture, virtual idols, which are the result of the combination of the two, have successfully transitioned from the secondary niche field to the public eye and have become the key objects for young groups to invest their emotions and consumption. According to the data from AI Media Consulting, in the early days, virtual idols in China were not mature in terms of both technology and content, and

the market enthusiasm was low. It was not until 2016 when the virtual idol Luotianyi emerged that the public gradually began to pay attention to this field, and China's virtual idol market started to attract the attention of investors. In 2018, with a major breakthrough in artificial intelligence technology, the virtual idol market entered a brand-new stage of development. In 2021, the concept of the meta-universe became popular rapidly, and the secondary culture continued to penetrate the public domain, bringing brand-new development vitality to the virtual idol market. According to the China Virtual Idol Industry Development Report 2023, the scale of the domestic virtual idol market has exceeded 100 billion yuan, and Generation Z accounts for more than 70% of the user group (Ganobčík et al., 2025).

Simultaneously, the cultural tourism industry is accelerating its digital transformation, and exhibition forms centered on 'culture + technology' are gradually emerging, such as the digital art exhibition of the Palace Museum linked with virtual idols and the Shanghai Yuyuan Yuanyuan Universe Lantern Festival. Against this backdrop, virtual idols have become a key part of China's virtual tourism industry and are now widely used in various industries. In this context, the combination of virtual idols and cultural tourism exhibitions not only injects new vitality into traditional culture but also becomes an important medium for attracting the participation of Generation Z. Behind this phenomenon lies the profound transformation of Generation Z's consumption behavior from 'material demand' to 'experience demand', as well as the new path of innovation and development of the tourism industry in the era of the experience economy (an economic paradigm that prioritizes the creation of memorable events and personal engagement over the mere provision of goods or services).

Existing studies have mostly focused on the entertainment attributes of virtual idols or the online consumption behaviors of Generation Z. However, there is a lack of systematic exploration of their cross-border applications and consumption motives in cultural tourism scenarios. Through analyzing the practice cases of virtual idols participating in cultural tourism exhibitions, this study reveals the consumption characteristics and core motives of Generation Z in this scenario, and further explores the unique role of virtual idols in facilitating cultural inheritance, such as interpreting traditional cultural connotations through historical IP personas, thereby highlighting the differentiated value of cultural tourism scenarios compared to pure entertainment contexts. This provides insights for the cultural tourism industry in terms of the practice of precise marketing strategies, technology-enabled innovation, and cultural value dissemination.

## 2. Virtual idols and Generation Z: A new ecology of cultural tourism consumption and theoretical exploration

### 2.1 The cultural attributes and commercial application of virtual idols

In the wave of the digital era today, virtual idols, as a unique cultural phenomenon, possess cultural connotations that cannot be overlooked. Virtual idols are usually endowed with rich personality traits, background stories, and unique image designs, all of which jointly form their cultural symbol system. From the perspective of cultural communication, virtual idols convey specific values and emotional demands and are extensively spread through various channels.

As a cultural product of the digital era, the emergence of virtual idols depends on advanced digital technologies like 3D modelling and motion capture. They are not merely virtual images with unique appearances and character settings but also carry abundant cultural symbols. Ranging from the cute style in the secondary culture to the classical elements in national culture, virtual idols integrate multiple cultures. Thus, they become a new carrier for cultural communication and exchange, satisfying the diverse individual cultural needs of different audiences (Hou & Paidi, 2025). This aligns with the view presented by Wang & Yang (2024) on the construction of a national-style aesthetic image for high-simulation virtual idols, underscoring their role as carriers of cultural symbols. In the context of cultural tourism exhibitions, this attribute enables virtual idols to integrate traditional cultural elements, thereby enhancing their appeal to Generation Z and facilitating the transmission of cultural heritage.

This cross-cultural communication ability endows virtual idols with cultural value that surpasses that of traditional idols, enabling them to become an important carrier of cultural innovation and communication. Therefore, conducting an in-depth study of the cultural connotations of virtual idols is of great significance for understanding their status and role in contemporary culture.

As the popularity of virtual idols continues to soar, their commercial application modes are becoming increasingly diversified, as depicted in Figure 1. At the commercial level, virtual idols have penetrated various fields such as advertising endorsement, live-streaming e-commerce, and concerts. On the one hand, virtual idols have made their presence felt in the music industry by releasing digital albums and hosting online concerts. Compared with traditional stars, the images of virtual idols are more manageable and can be tailored to the needs of brands, thereby better fulfilling their promotional requirements. Additionally, live-streaming and social platform interactions have become crucial modes of virtual idol business operations. These interactions not only strengthen the emotional bond between fans and idols but also generate revenue sources for the commercial operations of virtual idols. Meanwhile, the dissemination effect of social platforms enables the influence of virtual idols to expand, attracting more attention from potential fans. Therefore, exploring the commercial application modes of virtual idols contributes to uncovering their

development potential in modern business.

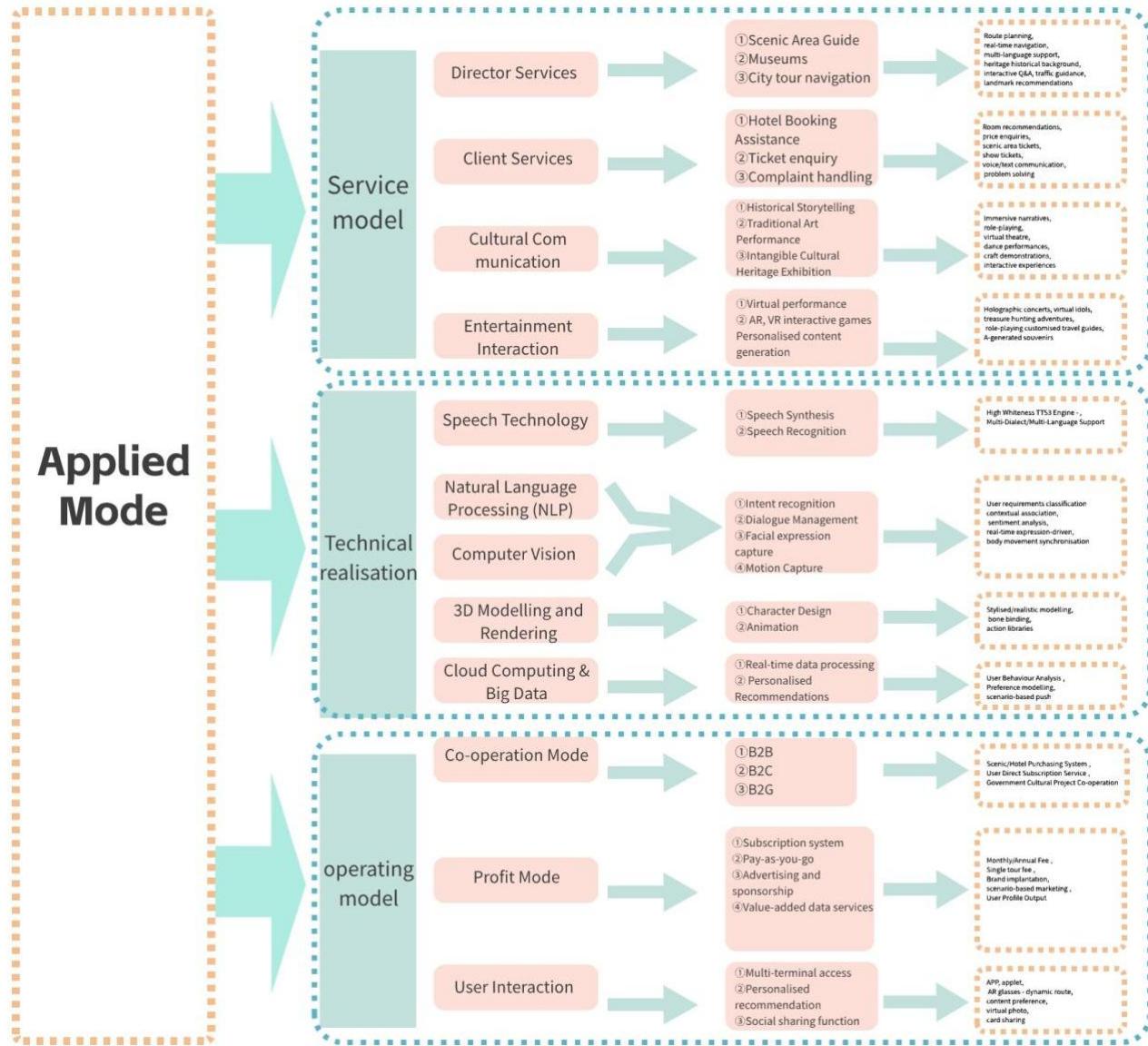


Figure 1. Patterns of Artificial Intelligence Virtual Digital People Serving the Cultural and Tourism Industry.

## 2.2 Research on consumer behaviour characteristics of Generation Z

As the main consumption force in the new era, Generation Z has grown up in an era of information explosion and multiculturalism. They place greater emphasis on self-expression and personality display. In terms of consumption behavior, this trait is manifested in their pursuit of unique products and services. Generation Z is willing to pay for brands that align with their values. This tendency towards symbolic consumption, in which goods are valued for their symbolic meaning and role in identity construction, is particularly pronounced in their engagement with virtual idols.

Social platforms serve as a crucial channel for Generation Z to access information and interact with one another. Through these platforms, they influence others' purchasing decisions and are, in turn, influenced by the recommendations of netizens and Key Opinion Leaders (KOLs) (Shen et al., 2024). From the perspective of the influence process, the impact of KOLs on Generation Z's consumption decisions can be divided into multiple stages. The first is the information dissemination stage. During this stage, KOLs share information about products or services on social platforms through diverse content forms such as graphics and videos. This information includes product features, usage experiences, and purchase channels. Presented in a vivid, interesting manner and closely related to the lifestyle of Generation Z, this information is more likely to capture their attention. Next comes the emotional resonance stage. Here, KOLs integrate their own emotions and attitudes into the sharing process, expressing their love, recognition, or reasons for recommending the product or service. Such emotional expressions can strike a chord with Generation Z, triggering their emotional resonance. Finally, in the decision-making stage, based on their trust in KOLs and the emotional resonance generated, Generation Z takes KOLs' recommendations into account when making consumption

decisions.

Word-of-Mouth (WOM) communication plays a pivotal role in the consumption behavior of Generation Z. Brands' interactions with Generation Z via social platforms can effectively boost brand awareness and product sales. KOLs, serving as crucial nodes in WOM communication, exert a profound influence on the social consumption patterns of Generation Z. The pursuit of personalization by Generation Z extends not only to social media but also to the realm of cultural tourism and exhibition activities. Compared with previous generations, Generation Z places greater emphasis on the experience and emotional value during the consumption process. Social media is an integral part of Generation Z's life. They rely significantly on the information on social media and others' evaluations when making consumption decisions. Generation Z consumers are accustomed to sharing their consumption experiences on social media platforms and also base their choices of products and services on other users' recommendations and evaluations. Consequently, exploring the consumption experiences and emotional needs of Generation Z consumers holds important reference value for optimizing the design and services of cultural tourism exhibition activities.

### 2.3 The experience economy theory in the scenarios of cultural and tourism exhibitions

The experience economy represents an economic paradigm centered on the core value of experience, placing great emphasis on consumers' perceptions and impressions of products and services. In their influential work, *The Experience Economy*, American economists B. Joseph Pine II and James H. Gilmore proposed that, in the context of increasingly fierce market competition and evolving consumer demands, enterprises are driven to attract and retain customers, and to foster stronger customer loyalty and satisfaction, by creating and delivering outstanding experiential offerings (Wee, 2019).

The theoretical framework of the experience economy suggests that, when purchasing products and services, consumers do not merely focus on their functional utility but also attach great significance to the experiential value they generate. As a result, within the sphere of cultural and tourism exhibition activities, the creation of unique experiences becomes a crucial factor in attracting audiences. The environmental ambiance is a key element influencing consumers' experiential experiences. Through carefully designed elements such as exhibition hall layouts, lighting and audio effects, and decorative displays, an ambiance that aligns with the theme of a specific scenario can be skillfully created. This immersive environment allows consumers to transcend temporal and spatial limitations, transporting them into the thematic world. The establishment of such an environmental ambiance not only helps consumers to better understand and appreciate the exhibition content but also evokes emotional resonance, leaving a lasting impression. Thus, in cultural and tourism exhibition activities, the intentional cultivation of an environmental ambiance is a vital strategy for enhancing consumers' experiences.

Interactive experience design is a practical manifestation of the experience economy theory in cultural and tourism exhibition activities. By integrating interactive elements, consumers can be more fully engaged in the exhibition, thereby increasing their sense of immersion and participation. Interactive experience design not only satisfies consumers' preference for novelty but also contributes to a deeper understanding and better retention of the exhibition content. Besides the environmental ambiance and interactive experience design, service quality also emerges as a critical factor shaping consumers' experiences (Jiang, 2025). Exceptional service can endow consumers with a sense of warmth and care, thereby increasing their satisfaction levels and cultivating long-term loyalty. In the context of cultural and tourism exhibition activities, service quality encompasses multiple aspects, including tour guide interpretations, the attitude of staff, and catering services. Therefore, in cultural and tourism exhibition activities, improving service quality is an essential safeguard for enhancing consumers' experiences.

### 2.4 Theoretical integration: TAM and experience economy in a cross-border context

The TAM was put forward by American scholar Fredrick C. Davis in 1989 to predict and explain users' acceptance and utilization behavior of information technology. This model postulates that users' acceptance of information technology is predominantly influenced by perceived usefulness and perceived ease of use (Schiele & Hughes, 2014). When users believe that a particular information technology can boost their work or learning efficiency (high perceived usefulness) and is convenient and swift to use (high perceived ease of use), they are more prone to accept and adopt this technology.

In the context of virtual idols' participation in cultural and tourism exhibitions, this study adapts and integrates TAM with experience economy theory to form a novel analytical framework for cross-border scenarios. Here, perceived usefulness is specifically manifested as the value Generation Z attributes to virtual idols in interpreting cultural content, enhancing learning, or providing unique entertainment within a cultural tourism setting. Perceived ease of use is reflected in the user-friendliness and operational convenience of the interactive technologies (e.g., virtual reality (VR) / augmented reality (AR) interfaces) that mediate the experience with virtual idols in these exhibitions. The TAM can assist us in comprehending the level of acceptance of Generation Z consumers towards virtual idols and related technologies. When virtual idols are incorporated into cultural and tourism exhibitions, Generation Z consumers will assess the perceived usefulness and perceived ease of use of virtual idols according to their own needs and expectations.

Consumer motivation theory posits that consumers' purchasing behaviors are propelled by diverse motives, encompassing physiological, psychological, and social motives.

Consumer motivation theory posits that consumers' purchasing behaviors are propelled by diverse motives, encompassing physiological, psychological, and social motives. When combined with the experience economy's focus on creating memorable events, this integrated framework allows for a nuanced analysis of Generation Z's participation in cultural and tourism exhibition activities featuring virtual idols. Their motives can be understood through this lens: the pursuit of entertainment and pastime aligns with the experience economy's emphasis on enjoyment; social interaction and identification motivations are served by the communal and identity-shaping experiences co-created in these settings; and knowledge-seeking and exploration motivations are satisfied by the educational and novel experiential value delivered through technology-mediated cultural content. This theoretical integration provides a concrete foundation for investigating how technological affordances and experiential design jointly shape consumption behavior in the "virtual idol + cultural tourism" nexus.

### 3. Research Design

To be in line with the national cultural digitalization development strategy, the cultural and tourism industry has gradually integrated culture and technology. By making use of the new means of expression of virtual digital humans, it promotes traditional Chinese culture in a manner that attracts young people. Among Generation Z, AI digital humans are anticipated to become an effective way for the commercial implementation of large models. Many major internet companies have already made plans for digital humans based on AI large models. This study employed a mixed-methods approach, integrating quantitative questionnaires with qualitative in-depth interviews to comprehensively explore the consumption behaviors and motivations of Generation Z in virtual idol cultural tourism exhibition scenarios. Data collection was conducted between March and May 2024.

#### 3.1 Questionnaire design and interview outline

The questionnaire was distributed via a professional online survey platform ("Wenjuanxing"). Targeting Generation Z users aged 18-30, it was disseminated through social media channels (relevant communities on Weibo, Xiaohongshu, Bilibili), university student networks, and virtual idol fan communities to ensure sample diversity and representativeness. The data collection period spanned from April 1 to April 30, 2024, yielding 842 initial responses. After rigorous screening, removing responses with excessively short completion times or obvious patterned answers, 756 valid questionnaires were retained, resulting in a valid response rate of 89.8%. Key sample characteristics are summarized in Table 1.

The questionnaire was designed based on core constructs from the TAM and experiential economy theory, aiming to measure users' awareness, attitudes, consumption behaviors, and experiences regarding virtual idols in cultural tourism settings. The structure of its core sections is summarized in Table 2 below.

Table 1. Key Sample Characteristics (N=756).

| Characteristic       | Category                    | Percentage (%) |
|----------------------|-----------------------------|----------------|
| Gender               | Female                      | 53.2           |
|                      | Male                        | 46.8           |
| Age Group            | 18-20                       | 15.1           |
|                      | 21-25                       | 68.4           |
| City Tier            | 26-30                       | 16.5           |
|                      | First-tier & New First-tier | 20.5           |
| City Tier            | Second-tier                 | 35.6           |
|                      | Third-tier                  | 28.7           |
| Fourth-tier & others |                             | 15.2           |
| Awareness of         | Yes                         | 52.3           |
| Virtual Idols        | No                          | 47.7           |
| Awareness of         | Yes                         | 63.3           |
|                      | No                          | 36.7           |
| Related Exhibitions  |                             |                |

Table 2. Structure of the Questionnaire Core Sections.

| Dimension             | Item(s)   | Purpose  | Item Type                       |
|-----------------------|---|--|---------------------------------|
| Awareness & Attitude  | Q4: Are you aware of virtual idols?<br>Q6: What are the main sources of appeal for virtual idols? (Multiple choice: image design, character setting, interactivity, etc.)   | To assess basic awareness and points of interest                       | Single/Multiple choice          |
| Consumption Behavior  | Q14: How frequently do you participate in virtual idol-related cultural tourism exhibitions?<br>Q15: What is your average expenditure in such activities?<br>Q18: What is your overall satisfaction with virtual idol services? (1-5 scale) | To quantify participation level and consumption                        | Single choice (assigned values) |
| Experience Evaluation | Q19: Do you believe virtual idols have sustainable development potential? (0-10 scale)<br>Q21: What are the main issues with current virtual idol content? (Multiple choice)  | To evaluate user experience, future confidence, and perceived problems | Scale/Multiple choice           |
| Social Diffusion      | Derived from sharing frequency data (based on Q14)  | To measure sharing behavior on social media                            | Calculated metric               |
| Demographics          | City tier, age, gender  | For sample description and group analysis                              | Single choice                   |

In addition, semi-structured interviews were conducted with 15 Generation Z users who had deeply engaged in virtual idol cultural tourism activities. Each interview lasted approximately 30-60 minutes. The interview guide focused on open-ended questions regarding participation motivation, emotional experience, and community interaction, aiming to provide in-depth explanation and contextualization for the quantitative findings.

### 3.2 Data analysis strategy

A combination of quantitative and qualitative data analysis strategies was employed. Quantitative data were analyzed using SPSS 26.0 and Python. The main analytical procedures were as follows:

(1) Descriptive Statistics: Frequencies and means were calculated for demographic variables and all measurement items to describe the basic distribution of the data.

(2) One-way Analysis of Variance (ANOVA): This was used to test whether significant differences existed in continuous dependent variables (e.g., "overall satisfaction", "sustainability score") across different city tiers (the grouping variable). The core logic is to compare the relative magnitude of between-group variation to within-group variation. Specifically, the total sum of squares (SST) can be partitioned into the between-group sum of squares (SSB) and the within-group sum of squares (SSW), as shown in Equation (1):

$$SST = SSB + SSW \quad (1)$$

The F-statistic is then calculated by comparing the between-group mean square (MSB) to the within-group mean square (MSW), as shown in Equation (2):

$$F = MSB / MSW \quad (2)$$

If the F-test result was significant ( $p < 0.05$ ), Tukey's Honest Significant Difference (HSD) post-hoc test was conducted to identify which specific group pairs differed significantly.

(3) Correlation Analysis: Pearson correlation coefficients were calculated to explore the strength of association between variables such as virtual idol acceptance and sustainability score.

(4) Qualitative Text Analysis: Interview recordings were transcribed verbatim. Thematic analysis was applied to code, categorize, and extract core themes related to participation motivations and emotional connections, which served to deepen and explain the quantitative findings.

### 3.3 Sample characteristics

As presented in Table 1, the valid sample (N=756) was characterized by a slightly higher proportion of female users (53.2%), with the majority aged 21-25 (68.4%). Geographically, users were primarily located in second-tier (35.6%) and third-tier cities (28.7%). Over half of the respondents (52.3%) reported awareness of virtual idols, and 63.3% were aware of related cultural tourism exhibitions, though the actual participation rate was comparatively lower.

## 4. Consumer Behavioural Profiling

### 4.1 Interaction preference: participation behaviour combining reality and reality

As digital natives, Generation Z's interactive preference for virtual idols manifests as a convergence of real-and virtual-world participation behaviors. Based on the questionnaire data, 71.6% of the respondents indicated that the "strong social interaction" of virtual idols constitutes a significant source of their attractiveness. A more detailed comparison of opinion ratings across different city tiers, including overall satisfaction, sustainability, and functional performance, is presented in Table 3. This interaction preference is not merely demonstrated in online scenarios such as live-streaming and short-video interactions, but also extends to cultural tourism exhibitions. For instance, the aforementioned 63.3% of respondents reported awareness of such exhibitions, and among participants, 58.7% opined that the art-creation forms involving virtual idols had enhanced their art appreciation. From the vantage point of the TAM, Generation Z's preference for virtual-idol interaction is derived from its perceived ease of use and perceived usefulness.

Table 3. Collation of Opinion Ratings Such as Overall Satisfaction and Functionality of the Virtual Human Questionnaire.

| R Value              | First-tier cities | Second-tier cities | Third-tier cities | Fourth-tier cities | New first-tier cities | Hong Kong, Macao and Taiwan |
|----------------------|-------------------|--------------------|-------------------|--------------------|-----------------------|-----------------------------|
| Overall Satisfaction | 8                 | 6.72               | 5                 | 2                  | 5.9                   | 3                           |
| Sustainability       | 8.9               | 10.53              | 7.33              | 5.6                | 9.3                   | 6.5                         |
| Defective            | -0.43             | -0.25              | -0.57             | 0.49               | -0.41                 | 0.78                        |
| Response Speed       | 4.3               | 5.2                | 4.6               | 4.2                | 3.3                   | 3.9                         |
| Accuracy             | 5                 | 5                  | 3                 | 3                  | 4                     | 4.6                         |
| Friendly             | 7.1               | 5.3                | 4.9               | 5.6                | 4.8                   | 4.5                         |
| Functional           | 8.8               | 7.7                | 2.9               | 4.8                | 4.5                   | 5.9                         |

In the context of the burgeoning experience economy, technological innovation offers a novel means for virtual idols to interact with their fans (Jiang et al., 2025). Generation Z exhibits interaction characteristics that blend the real and the fictional in this process. As presented in the correlation analysis chart between the degree of acceptance of virtual people and sustainability within the group in Figure 2 the identification of the information in the color-block differentiation and color-difference charts indicates that the orange area represents the region of higher correlation, while another area has a lower degree of correlation. This reflects the perspective within the TAM that an individual's perceived usefulness and ease of use of technology influence the willingness to use. With technologies such as VR and AR bringing unprecedented interactive experiences to Generation Z, this immersive experience not only enriches the interactivity's fun and immersion but also enables them to deeply understand the value of the technology, thereby enhancing their willingness to participate.

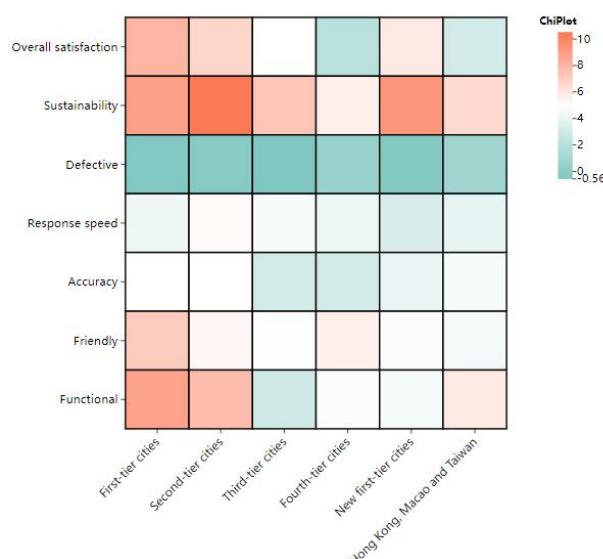


Figure 2. Plot of Intra-Group Correlation Analysis Between Virtual Person Acceptance and Sustainability.

## 4.2 Symbol consumption: identity and community belonging

Virtual idols are not merely entertainment products but also crucial symbols for Generation Z to construct their self-identity and sense of community affiliation. As per the questionnaire data, 68.9% of the respondents hold the view that the “unique image design” and “distinctive character setting” of virtual idols are the core elements of their attractiveness (Q6). This symbolic consumption behavior (where goods serve as markers of identity and group membership) mirrors the psychological needs of Generation Z to express themselves and seek a sense of belonging through virtual idols. Rooted in the motives of self-expression and community belonging, the image and character setting of virtual idols are highly congruent with the values of Generation Z, thus becoming the carriers of their personality and attitude. Virtual idol fan communities offer emotional support and a sense of social belonging to Generation Z. Social sharing assumes a significant role in the consumption of virtual idols by Generation Z. Content co-creation and dissemination are intertwined, forging a unique consumption culture (Christou et al., 2025).

The TAM indicates that the user-friendliness and powerful dissemination capabilities of social media platforms encourage the active participation of Generation Z. They are no longer merely content consumers; rather, they actively engage in content co-creation through activities such as creating fan-made comics, novels, and music. This behavior meets their needs for self-expression and social interaction, highlighting their individuality and creativity. From the perspective of the experience economy, this content co-creation and dissemination provide Generation Z with an in-depth experience, which in turn spurs higher consumption enthusiasm, promotes the consumption of related products, and bolsters the development of virtual idols and derivative content.

## 4.3 Social sharing: content co-creation and diffusion diffusion

Generation Z demonstrates a strong social-sharing tendency in virtual-idol consumption. This behavior encompasses not only content diffusion but also content co-creation. From the experience-economy theory perspective, Generation Z's social sharing is a key means of their value co-creation participation. Virtual idols interact with fans via short videos and live-streaming, spurring fan creation. Some interviewees expressed the hope that virtual idols could understand and adapt to different users' communication styles, reflecting Generation Z's deep-participation demand in content co-creation. Moreover, social sharing expedites virtual-idol spread. Questionnaire data (Q14) shows that the dissemination volume, measured by the average monthly sharing frequency of virtual idol cultural tourism exhibition content, is significantly higher in first-tier and new first-tier cities (3.2 times) than in fourth-tier cities (1.5 times). This disparity is closely tied to Generation Z's social-media activity and regional internet infrastructure (Sharma et al., 2025). The lower dissemination in lower-tier cities implies the need for a more far-reaching dissemination strategy.

The virtual-idol communication strategy must be further refined to expand the audience. Currently, despite high popularity among the youth, the dissemination in lower-tier cities is inadequate. In the future, efforts should be made to deepen regional coverage, explore diverse communication channels, enhance content co-creation, improve content quality, and construct a complete ecosystem. This will achieve the sustainable development of the virtual-idol industry and broader social influence.

## 4.4 Short-term and scene-dependent consumption decisions

Generation Z's virtual-idol consumption decisions exhibit notable short-term and scene-dependent traits. From the perspective of consumer motivation theory, when driven by scenes, the activity scenarios of virtual idols, such as exhibitions and live broadcasts, offer Generation Z immediate consumption motivation. When emotion-driven, Generation Z's consumption behaviors are inclined to be based on emotional impulses rather than long-term planning.

Nevertheless, short-term consumption decisions also present certain challenges. Some 37.4% of the respondents pointed out that the content quality of virtual idols is unstable (Q21), which might impact their long-term consumption willingness. Thus, virtual-idol operators should focus on continuous innovation in scene design to boost user stickiness. Currently, virtual idols have shown strong cultural influence, yet their long-term development still calls for optimized scene design to guarantee the consistency and depth of the user experience. In the future, operators should leverage advanced technologies to create diversified and immersive scenes, and encourage users to engage in content co-creation to meet the demands of different audiences. This can enhance the overall attractiveness and market competitiveness of virtual idols, and facilitate the sustainable development of the industry.

# 5. Deep Analysis of Participation Motivation

## 5.1 Emotional motivation: emotional projection and companionship value of virtual idols

The consumption behaviors of Generation Z towards virtual idols—characterized by interaction preference, symbolic consumption, and social sharing—are deeply rooted in specific psychological and social needs. To unravel the core motivations underpinning these behaviors, this analysis applies the integrated lens of the TAM and experience economy theory (Wang et al., 2025). Within this framework, emotional motivation emerges as a central driver. Growing

up in the era of digital information explosion, the fast-paced real-life and social pressure have made Generation Z's need for emotional companionship more pressing than ever. Virtual idols, with their carefully curated personas, diverse talents, and consistent emotional output, have become ideal vessels for this emotional projection.

Psychologically, emotional projection is a phenomenon where individuals project their own emotions and expectations onto external objects. Generation Z endows virtual idols with distinct meanings based on personal preferences and needs, transforming them into personalized sources of comfort and identification. The companionship value offered by virtual idols is particularly significant. Unconstrained by time and space, they can interact with fans anytime through various digital platforms. Whether through heart-warming updates on social media or evocative performances on music platforms, virtual idols provide consistent emotional solace. This companionship not only alleviates feelings of isolation but also fosters a sense of security and belonging through sustained emotional interaction, thereby motivating continued support and engagement.

## 5.2 Self-expression motivation: the appeal of digital identity construction

Generation Z lives in the digital era and has a strong desire for self-expression and identity construction (Du et al., 2025). Virtual idols provide them with a unique platform for digital identity construction, which satisfies this psychological demand. In the virtual space, Generation Z indirectly expresses their values, interests and aesthetic orientation by supporting and participating in shaping the image, character and development trajectory of virtual idols. This participation makes the virtual idol the 'spokesperson' of Generation Z in the digital world, which is the external manifestation of their personality and self-perception. From the viewpoint of social identity theory, individuals gain social identity through the construction of unique identities, and in the process of supporting virtual idols, Generation Z has formed a fan community with common interests. In this community, they display their talents and personalities through their unique interpretations and creations of virtual idols, and communicate, compete and co-operate with other fans, thus gaining recognition in the community and further reinforcing the construction of their self-identity.

## 5.3 Technology-driven motivation: immersive experience and media novelty

With the rapid development of digital technology, technological factors significantly influence Generation Z's motivation to participate in virtual-idol activities. The TAM emphasizes that an individual's acceptance of new technology hinges on the perception of its usefulness and ease of use. In the realm of virtual idols, technological advancements have brought immersive experiences and media novelty to Generation Z, spurring their participation. The application of advanced technologies like VR, AR, and Motion Capture enables Generation Z to have an immersive experience when interacting with virtual idols. This immersive experience greatly heightens the attractiveness of virtual idols, making Generation Z feel a sense of freshness and excitement that traditional entertainment cannot match (Ye et al., 2025).

Simultaneously, media novelty is also a crucial factor in attracting Generation Z. New digital media are emerging constantly, providing more novel means for the presentation and dissemination of virtual idols. Short-video platforms, live-streaming platforms, and various emerging social applications enrich and diversify the content of virtual idols, and make their dissemination more rapid and extensive. This prompts Generation Z to consume related products and services in pursuit of these novel experiences.

## 5.4 Social capital motivation: relationship maintenance in circle culture

Social capital motivation is also not to be underestimated in the consumption of virtualons with other fans can expand their social circles and obtain rich social resources. In order to maintain a good social relationship in the circle, Generation Z actively participates in various activities of virtual idols, such as charting, supporting, and attending fan offline gatherings. By demonstrating their love and support for virtual idols, they win the recognition and respect of other fans, thus enhancing their status and influence in the community. This motivation based on social capital drives Generation Z to continuously invest time and energy in participating in virtual idol consumption activities, and also strengthens the cohesion and stability of the fan community.

## 6. Summary

In the rapidly evolving digital era, the integration of virtual idols with emerging technologies like artificial intelligence, blockchain, and the meta-universe is generating a brand-new consumer phenomenon. This study focuses on this cutting-edge field and offers an in-depth analysis of the diverse forms and innovative gameplay of virtual idols enabled by new technologies. Nonetheless, since the samples in this study are predominantly sourced from specific regions and online channels, certain limitations may exist. These limitations make it challenging to comprehensively cover how cultural differences, economic development levels, and network infrastructure in different regions influence Generation Z's perception and consumption behavior regarding virtual idols.

Looking forward, as the virtual idol industry continues to thrive and related research deepens, we are justified in

believing that more worthy-of-exploration topics and opportunities will surface in this area. Follow-up studies can further broaden the sample scope and delve deeper into the characteristics of different regions and groups. This will enable the provision of more targeted suggestions and strategies for the healthy development of the virtual idol industry.

## Data Availability Statement

Data generated during this study are included in this published article.

## Conflicts of Interest

The authors declare no competing interests.

## Author's Contributions

Conceptualization: Y.Y.; Methodology: Bo.Y.S.; Writing—Original Draft Preparation: Y.Y.; Writing—Review & Editing: Bo.Y.S.; Visualization: R.C. All authors have read and agreed to the published version of the manuscript.

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