

From “Online Star City” to “Long Famous City”: An Innovative Study on Changsha’s City Brand Image Communication Mode Driven by Digital Technology

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Abstract In the era of digitization, the communication mode of city brand image undergoes profound changes. This paper explores the innovation and development of Changsha's city brand image communication mode driven by digital technology by using case study, content analysis and questionnaire survey methods. The study establishes a differentiation strategy for Changsha's city brand image through SWOT analysis, and builds a “digital Changsha” communication model with the help of experiential marketing and integrated communication. The study shows that the image of Changsha's urban environment accounts for 44.67% of social media communication, of which 35.67% is related to tourist attractions, and 30% is related to the image of the city's culture, which reflects Changsha's advantageous communication content on digital platforms. Analysis of social media data shows that tweets with more than 1,000 likes for Changsha's city image-related content accounted for 85.4% of the total, showing good communication effects. Satisfaction survey results further indicate that citizens are most satisfied with the digitally-driven Changsha city brand image communication in terms of memorization effect, with a score of 4.6 (out of 5). Digital technology provides Changsha city brand image communication with a new mode of diversified content, innovative form and three-dimensional channels, reflecting the synergistic effect of differentiation strategy, experiential marketing and integrated communication, which can be a reference for digital communication of brand image in other cities.

Index Terms city brand image, digital technology, differentiation strategy, experiential marketing, integrated communication, social media

I. Introduction

Today, under the influence of economic globalization, branding has not only belonged to the category of business, but also involves the strategic deployment of various fields of society [1]. The speed of urban development has been accelerating, more and more cities want to show their unique characteristics in the interweaving of history and modernity, materiality and spirituality, and city branding and image communication have become a research field of concern for many scholars [2]-[4]. Under the digital media environment, more social interactive, open and sharing elements are integrated into the Internet, the number of people participating in social network life is increasing, and the public gradually accepts the way to understand the external environment through the Internet, and is accustomed to obtaining and distributing information through interactive communication on social media platforms [5]-[8]. Digital media platforms have increasingly become an important medium for city branding in the image building and communication process [9]. However, the growth of social media has caused a huge shift in the external cognitive environment and internal psychological behavior of the public, and the communication of city image has become more complex and diversified [10]-[12]. In this case, cities need to carry out effective city brand image shaping communication according to the background of the new media era, combined with their own characteristics, and with the help of the new media's openness, interactivity, sharing, and community-based features.

As the capital of Hunan Province, Changsha is an important center city in central China and an important node city of “One Belt, One Road”, and it has been an open and inclusive city since ancient times [13]. In recent years, Changsha has taken the initiative to integrate into the construction of the “Belt and Road”, the Yangtze River Economic Belt, and the Guangdong-Hong Kong-Macao Greater Bay Area, which has led to rapid economic development. At the same time, Changsha has become increasingly internationalized [14]. Changsha city brand is an important part of the national image, city builders analyze, refine, and integrate the unique element endowment, historical and cultural precipitation, industrial advantages and other differentiated brand elements of their cities, to

create the city's unique cultural business card, to enhance the international communication power of the city brand, and to promote the international dissemination of the city image, which is of great significance for the good shaping of the national image [15]-[17]. However, an overview of Changsha's city brand image communication reveals that there is a lack of systematic and integrated communication strategies, and a lack of innovation in communication methods and approaches, which leads to a certain deviation between the communication results and expectations [18], [19].

City brand image is a comprehensive embodiment of the city's spiritual culture and material characteristics, representing the core value and unique charm of the city. At present, global urban development has entered a stage of white-hot competition, and all major cities have sought to enhance their competitiveness and attractiveness by shaping distinctive city brand images. The arrival of the digital era has brought new opportunities and challenges to the communication of city brand image, and emerging technologies such as mobile Internet, social media, VR/AR have profoundly changed the way of city image construction and communication. Especially in the post epidemic era, digital technology empowered city brand image communication has become an important strategic choice for city development. Cities have explored the innovative path of using digital technology to build city brand IP, enhance city popularity and expand city influence. The communication of city brand image has changed from the traditional one-way communication mode to the digital communication mode of diversified interaction, immersion experience and cross-border integration, presenting new features such as diversified contents, innovative forms, three-dimensional channels and broad audiences. As a complex social ecosystem, the communication of city brand image involves multiple dimensions such as politics, economy, culture, environment and citizens' life, etc., and the application of digital technology provides an effective means for integrating these dimensions and constructing a three-dimensional city image. The current academic research on city brand image communication focuses on traditional communication channels and methods, and there is a relative lack of systematic research on the innovation of city brand image communication mode driven by digital technology. In particular, there is a lack of case studies on central cities with obvious regional characteristics and remarkable digitalization. Changsha, as an important city in central China, has actively explored the innovative path of city brand image communication empowered by digital technology in the process of constructing "Online Star City" and creating "Long Famous City" in recent years, and has achieved remarkable results, which is worthy of in-depth research and analysis.

Taking Changsha as the research object, this study analyzes the innovative practice of Changsha's city brand image communication from a digital technology-driven perspective by comprehensively applying the case study method, content analysis method and questionnaire survey method. Firstly, it establishes the differentiated strategic positioning of Changsha's city brand image through SWOT analysis; secondly, it analyzes how Changsha innovates the way of experiencing city image through experiential marketing; thirdly, it explores how Changsha builds a multidimensional and three-dimensional city image through integrated communication; and lastly, it evaluates the effect of Changsha's city brand image communication based on online text and questionnaire surveys. Through the systematic analysis of Changsha's case, we summarize the rules and experiences of city brand image communication mode innovation driven by digital technology, so as to provide a reference for other cities, especially those in central China, to build and communicate their brand image.

II. Research on Changsha city brand image communication under digital technology

II. A. Research methodology

II. A. 1) Case study method

Case study method [20] is an empirical research method, which takes typical cases as materials, improves the cognition and finds the solution to the problem through specific analysis. Therefore, this paper takes "Changsha" as a typical case to study the content, form, effect and significance of its city image, in order to get the strategic plan of shaping the city image by digital technology, which can provide a reference for other cities to shape the city image in digital construction.

II. A. 2) Content analysis method

Content analysis is a communication research method that analyzes the quality and quantity of mass communication content to understand the focus of communication in a certain period of time as well as the communication law of communication content in a certain period of time. This paper analyzes the current situation of Changsha's city brand image by collecting the top 100 short videos with the highest number of likes under the topic of "Changsha" on the Shakey Voice platform as samples and observing the related contents posted by them.

II. A. 3) Questionnaire method

Questionnaire survey method is a commonly used social science research method to collect standardized and quantified data by designing questionnaires and distributing them to specific groups of people in order to understand

their viewpoints, attitudes, behaviors and so on. This paper explores the communication effect of Changsha's city image through questionnaire survey. Taking Changsha as a sample city, we collect and analyze relevant information through the platform of "Questionnaire Star" to study the communication situation of Changsha's city image and judge the good effect of Changsha's city image communication.

II. B. Communication Mode of "Digital Changsha" City Brand Image

II. B. 1) Strategies for differentiation

In this paper, Changsha is clearly positioned through SWOT analysis [21], and it is observed that Changsha is characterized by obvious labels such as "fashion capital" and enjoys unique advantages based on the city's cultural resources. In order to follow the strategy of differentiated development, Changsha's city brand image, under the guidance of the overall development line, symbolizes the symbolic elements and redraws the city brand map in a straightforward manner. Optimizing the communication effect of the city brand image from the perspective of visual aesthetics, it enhances the external attractiveness of the city brand image and at the same time enables more people to easily recognize the uniqueness of Changsha, thus deepening the city's memory.

In the process of city brand image building, in addition to the differentiated positioning analysis, the differentiated strategy of communication and marketing paths is also worth weighing repeatedly. Different communication platforms and forms of communication have different focuses. A detailed and long-term communication plan should be formulated according to the specificity of the platform communication, following the logic of the platform communication and covering the hot issues while maintaining a correct and stable communication rhythm in order to realize the rapid dissemination of the city brand image. Whether it is online new media platform operation or offline advertising, entity implantation, should pay attention to the visual appeal and emotional factors hosted, catch the public eye at the same time, give more emotional resonance, the two complement each other, the effect is better.

II. B. 2) Experiential Marketing

For Changsha city brand, the local government should join hands with mainstream media, head enterprises and citizens to form the communication body of the city brand, and attract and guide the city stakeholders to participate in the activities of city brand marketing in an orderly manner.

From the perspective of experience economy, the components of Changsha city brand image derivatives mainly include experience theme, experience plot and sensory stimulation. Among them, the experience theme is necessary, the experience plot is the key, and the tourists' sensory experience is the effect, which are interlocked and indispensable. Adopting "tourism + variety show" to create a new mode of cultural and tourism integration. Integrating new elements into the in-depth scene of experiential marketing will help Changsha further enhance its image as a "happy place in the prosperous city" and a "fashion capital".

With the mature development of emerging technologies such as VR [22] and AR [23], immersive experience has been a hot topic in recent years, and the VR map does not only highlight Changsha's history, culture, and scenery, but also uses it to find the relevance of Changsha's city brand image. Changsha's city brand image takes regional publicity as an opportunity to incorporate the characteristics of "history", "story" and "influence" into the city brand image. The city brand communication campaign enables the audience to leave an initial impression of Changsha's city brand image while virtually experiencing a trip to Changsha in the cloud, thus establishing a good brand image for the city.

II. B. 3) Integrated communication

For city brand communication, "integration" is an inevitable trend for the comprehensive development of cities. At present, based on the concept of "integrated marketing communication", cross-platform resource integration and cross-module teamwork are carried out to provide consumers with more channels to understand the city's brand image and a three-dimensional image of the city's brand image. For Changsha's city brand image, the content demand, emotional demand, and service demand of the city's stakeholders are characterized by living, personalization, and socialization, so integrated marketing communication has become the key to operation, and the digital image of the brand image has become the focus of development.

First, integrated marketing communication emphasizes the systematic nature of brand marketing. The Changsha city brand image combines the unique regional culture and consumer needs to emphasize the inclusive and free nature of the Changsha city brand image. It focuses on the efficient matching between the city brand image and the city stakeholders, with the aim of establishing a unique city spirit, conveying the cultural connotation of the city, and driving the city stakeholders to actively participate in the Changsha city brand image communication activities.

Secondly, integrated marketing communication is mainly oriented to consumer demand. Under the new media environment, city managers are no longer the only builders of the city brand, but city residents, tourists, investors and others can also take the initiative to refine the core spirit of the city through their personal experience, emotional

attachment and business cooperation. As mentioned above, Changsha's city brand image adopts an experiential marketing strategy, perfecting the multi-faceted dimensions of the city brand image by giving consumers a personal and practical experience. The communication method of "storytelling" gives Changsha's city brand image more character traits and emotional values, which makes the digital image of the brand image more three-dimensional and vivid, and can provide products and services for consumers.

II. C. Changsha City Image Measurement Design Based on Web Texts

II. C. 1) Selection of web text collection sites

The audience's perception of Changsha's city image is reflected in various commentaries, which are mainly carried by social media platforms, online travel websites, Q&A websites and other portals. In this paper, we use the influential social media platform "Jieyin" as the sample source, because the dimensions of Changsha's city image reflected in the commentaries on this platform are broader.

II. C. 2) Sample Collection

After determining the sample source websites, we searched two websites with the keyword "Changsha", and finally selected 10 Q&As on the social media platform "Shake" after comprehensive consideration. After determining the samples, the "Octopus Collector" software was used to capture the Q&A texts. The questions, question descriptions, number of answers, answer usernames, answer contents, number of responses, response times, and number of comments were captured and stored on the target websites. The earliest date for collecting comment texts on questions about Changsha's city image is from September 2018 to December 2024. Finally, 1,962 answer texts were obtained on the "Shake" platform, with a total of 816,239 words in the answer content.

In order to ensure more scientific research results, the sample data need to be cleaned up, after text cleaning, the total word count of the sample data is reduced to 671,932 words, which is saved and named as "Changsha City Image Perception Sample Data" as the basis for subsequent research.

II. C. 3) Text content processing

When conducting text content analysis, the words that often appear in the text are usually labeled words that leave a deep impression on the commenters, and the higher the frequency of the words, the clearer and deeper the audience's cognition of that part of the image. In order to maximize the extraction of target data, it is therefore necessary to process the text content, the specific rules are as follows:

(1) Expanding the customized vocabulary of the word list of participle: adding Changsha's unique attractions, landmarks, objects, restaurants, and people's names into the word list of the participle software. Specifically, it includes the customized word lists of Changsha's major attractions and scenic spots, different urban districts, relevant personal names, proprietary words, special restaurants, road names, etc., so as to ensure the accuracy of word segmentation.

(2) Establishing a word group list: the multiple expressions for one thing in the dimensions of main attractions and scenic spots, proprietary words, catering, etc., will be grouped together and defined in a unified way.

(3) Establish the filter word list: the pronouns, prepositions, auxiliaries and other words that have nothing to do with the research objectives of this paper are grouped into the filter word list to realize the preliminary filtering, which is convenient for effective statistics.

II. C. 4) High-frequency word statistics

Further manual screening was conducted to eliminate words irrelevant to this study and rank high-frequency words from high to low, so as to initially understand the audience's perception and awareness of Changsha's city image in all dimensions. After the high-frequency words are counted, they can be primary coded. Each of the top 100 words is summarized and organized, and words with the same attribute characteristics are grouped into one analysis category, thus establishing secondary categories.

II. C. 5) Constructing analytical categories

Based on the requirements of the content analysis method, this study groups words with the same expressive themes and attributes into one category and names them uniformly to form the secondary analysis categories. In the process of compiling the secondary categories, we adhere to the two ways of drawing on the existing categories of the predecessors and constructing our own categories based on the needs of the study, following the principles of comprehensiveness, accuracy and mutual exclusivity, and at the same time, we cannot detach ourselves from the research text, so as to avoid the bias caused by referring to high-frequency vocabulary only. Since the high-frequency vocabulary contains adjectival evaluation words and adverbs, the following principles will be followed when categorizing such words:



(1) Refer to the co-word matrix table. Co-word matrix is a calculation method of statistics, which can count the number of times two words appear simultaneously in the text, so as to describe the intimacy between words and phrases and list the matrix, which can clearly see the correlation and logic between the data. In the process of vocabulary categorization, some words with clear attributes will be categorized first, and some evaluative words and adverbs that cannot be clearly categorized will be referred to the co-occurrence matrix to see which word has the highest co-occurrence with it, and then be categorized in the secondary class of the word with which it has the highest co-occurrence.

(2) Referring to textual materials to avoid bias caused by only referring to high-frequency words and the co-occurrence matrix. When categorizing some evaluative words and adverbs, if two words appear in the co-occurrence matrix with the same number of occurrences or intuitively do not logically correlate with the category to which the co-occurring word belongs, they will be categorized in the corresponding secondary category according to the most frequent contexts based on the textual data collected, depending on the contexts in which they appear.

III. Analysis of Changsha city brand image communication driven by digital technology

III. A. Current situation of Changsha city brand image perception

This section investigates the current situation of Changsha's city brand image shaping by combing through the previous research literature, and selecting and borrowing as much as possible from the mature scales proposed by relevant scholars in this research field. Combined with the research theme of this paper and the principles and precautions of questionnaire design, it is designed into a complete questionnaire, including seven survey dimensions: affinity, natural landscape, humanistic landscape, living environment, natural conditions, urban potential, and industrial status.

Drawing on the attitude measurement methods in psychology, the Likert five-point sequential scale was used to measure each indicator. The numbers "1" to "5" indicated "strongly disagree" to "strongly agree". One hundred local residents in Changsha were randomly selected to conduct a survey on brand image perception. A total of 100 questionnaires were collected during the investigation period. The number of valid questionnaires was 100, and the effective rate was 100%.

The results of the survey on residents' perception of Changsha's city brand image are shown in Figure 1. After analyzing the mean value processing and descriptive statistics of the questionnaire data of 100 city residents through SPSS27.0 software, it was found that the natural environment was the dimension with the best perceptual evaluation among the seven factors, with an average score of 4.4 points. This is followed by humanistic landscape, urban potential, affinity, natural landscape and living environment, which have an average score of more than 4.1. Lastly, there is the industrial situation, which has an average score of 4.03, which is lower than 4.1.

Generally speaking, the perception of the basic function dimension of Changsha city brand image is in a positive and positive attitude, and the satisfaction of the basic function of Changsha city is high. However, the ranking of the mean values of each factor can be found that the city's natural environment, affinity, natural landscape and humanistic landscape are in a relatively better position in the perception evaluation, while the city's industrial condition is in a relatively worse position.

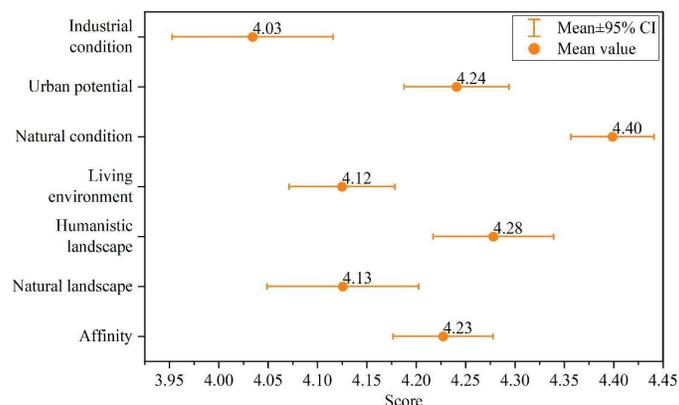


Figure 1: The survey results of the image perception of Changsha city brand

III. B. Characterization of social media-based communication effects

The communication effect refers to the degree to which the communicator's purpose is achieved after the communication activity, as well as the changes in the audience's attitude and behavior. To assess the effectiveness

of information dissemination on social media, the most direct indicators are the number of comments, retweets and likes on tweets. By using the python technology on the Internet, data collected with the keyword "Changsha" on the Douyin platform from December 31, 2020 to December 31, 2024 were captured. Advertising videos unrelated to the image of Changsha were filtered out, and 22,661 short video samples were obtained. The data of the above three aspects are adopted to measure the effect of the city image communication of Changsha. In order to better measure the distribution intervals of likes, comments and forwards, after the overall estimation of the data of these three dimensions, the data intervals are set as [0,100], [101,500], [501,1000], [1001,10000], [10001,100000] and [100001,+∞].

Table 1 shows the results of the survey based on the communication of Changsha city brand image. According to the analysis, the number of tweets with more than 1,000 likes accounted for 85.4% of the total, with 23.29% of the tweets with [100001,+∞] likes, which is higher than the percentage of comments and retweets in the same distribution range. Compared with comments and retweets, likes have a low threshold of operation, and audiences can express their favorable views by likes based on pictures and videos without reading the content of tweets.

The number of tweets with comment volume and retweet volume distributed in the [100001,+∞] interval all account for a very small part of the total, 4.14% and 1.80% respectively, but the number of tweets with these two parts in the [501,100000] interval occupies the vast majority of the total, 84.44% and 86.27% respectively. Overall the communication effect of Changsha city brand image driven by digital technology is better, with more popular events, wider communication radius and higher attention.

Table 1: The results of the survey of the urban brand image

| | Data range | Quantity | Proportion (%) |
|------------|----------------|----------|----------------|
| Thumb up | [0,100] | 361 | 1.59 |
| | [101,500] | 673 | 2.97 |
| | [501,1000] | 2273 | 10.03 |
| | [1001,10000] | 5865 | 25.88 |
| | [10001,100000] | 8211 | 36.23 |
| | [100001,+∞] | 5278 | 23.29 |
| Comment | [0,100] | 582 | 2.57 |
| | [101,500] | 2007 | 8.86 |
| | [501,1000] | 6363 | 28.08 |
| | [1001,10000] | 6719 | 29.65 |
| | [10001,100000] | 6052 | 26.71 |
| | [100001,+∞] | 938 | 4.14 |
| Forwarding | [0,100] | 959 | 4.23 |
| | [101,500] | 1745 | 7.70 |
| | [501,1000] | 3929 | 17.34 |
| | [1001,10000] | 7522 | 33.19 |
| | [10001,100000] | 8099 | 35.74 |
| | [100001,+∞] | 407 | 1.80 |

III. C. Changsha City Image Content Coding Analysis

City image is the sum of material image and spiritual image from the objective point of view, and it is the perceived impression and comprehensive evaluation of the audience's cognition and emotion towards the city from the subjective point of view. In this study, the 22661 Jieyin short videos collected in the previous section are taken as the research object, and 300 videos are randomly selected from the number of likes, comments and retweets in the interval of [1001,+∞], and then coded and analyzed according to the five kinds of communication contents, namely, political image, economic image, cultural image, environmental image, and citizens' image, so as to summarize the main urban image of Changsha presented in the Jieyin platform. City image.

This section constructs 10 subcategories based on video content as follows:

(1) Government Image

Official image: the external presentation of government organizations and related contents such as governmental activities.

International relations: the city's foreign exchanges and participation in international affairs.

(2) Economic Image

Urban development: covering the dynamic presentation of city construction, planning and strength.

Economy and trade: regional commercial activities, trade exchanges and economic development.

(3) Cultural Image

Gourmet culture: introducing local specialty food production, cultural origin and dietary customs.

History and culture: excavating the city's historical stories, cultural heritage and traditional inheritance lineage.

(4) Environmental image

Natural scenery: show the city's natural landscape and geographical advantages.

Tourist attractions: share the characteristics of famous attractions and sightseeing tips.

(5) Citizen Image

Lifestyle: Citizens' daily life patterns, habits and sharing of leisure and entertainment.

People's News: Information and social dynamics closely related to people's lives.

Based on the theoretical framework constructed in this paper, 300 video samples were categorized and counted, and the results of Changsha city image content statistics are shown in Table 2. From the table, it can be seen that on the Jittery platform, Changsha has the largest number of videos related to environmental image, with 134 videos, accounting for 44.67%, of which the number of videos related to tourist attractions is 107, which is much more than the 27 videos of natural scenery. Cultural image videos accounted for 30% of the total, in which food culture and history and culture are both shown to a certain extent. Economic image videos accounted for 13.67%. Government image videos accounted for a relatively low proportion of 6.67%. Citizen image video accounts for the least, only 5%. From the results, it is found that among the communication contents of Changsha's city image under digital communication technology, the environmental image video shows obvious advantages and lays a good foundation for the communication of the city image.

Table 2: Changsha city image content statistics

| Primary title | Secondary title | Quantity | Total amount | Proportion (%) |
|---------------------|-------------------------|----------|--------------|----------------|
| Government image | Official image | 6 | 20 | 6.67 |
| | International relations | 14 | | |
| Economic image | Urban development | 11 | 41 | 13.67 |
| | Economic trade | 30 | | |
| Cultural image | Food culture | 54 | 90 | 30 |
| | Historical culture | 36 | | |
| Environmental image | Natural wind | 27 | 134 | 44.67 |
| | Tourist attraction | 107 | | |
| Civic image | Lifestyle | 9 | 15 | 5% |
| | Minsheng new | 6 | | |

III. D. Satisfaction Survey on Digital Communication Models of Urban Image

In this section, the satisfaction of Changsha residents with the digital technology-driven brand image communication model proposed in this paper was counted by means of a questionnaire survey. The questionnaire was designed from the residents' memorization effect of Changsha city brand image, brand influence, innovative approach, interactive effect and user experience, totaling five aspects. One hundred local residents were randomly selected as research subjects, and the level of satisfaction of the investigators was quantified using a five-level Richter scale.

The results of the questionnaire survey were statistically analyzed by SPSS software to obtain the results of the survey on residents' satisfaction with the digital technology-driven brand image communication mode in Changsha, as shown in Figure 2. The data in the figure show that residents' satisfaction ratings for the digital-driven brand image communication mode in terms of memorization effect, brand influence, innovation method, interaction effect and user experience range from 4.0 to 4.6 points. Among them, satisfaction with the memory effect of Changsha's city brand image is the highest. The digital communication model uses multiple forms to display Changsha's brand image, such as text, pictures, video, audio, etc., and these multimedia elements can stimulate multiple senses of tourists and form a deep memory impression. This is followed by brand impact, with a satisfaction score of 4.39. Through continuous digital communication activities, Changsha's positive brand image can be shaped, and the brand's influence and reputation can be improved. The satisfaction of innovative approach and user experience is similar, with 4.15 and 4.12 points respectively. Digital communication provides visitors with immersive experience through new technologies such as virtual reality and augmented reality, and utilizes this innovative technology to improve visitors' experience. Finally, the satisfaction of the interactive effect is relatively low, but still reaches a high level of satisfaction at 4.04 points. In the digital communication model, interactive channels such as Jitterbug social

media and online surveys are utilized to establish a close connection with tourists and to understand customer needs and feedback.

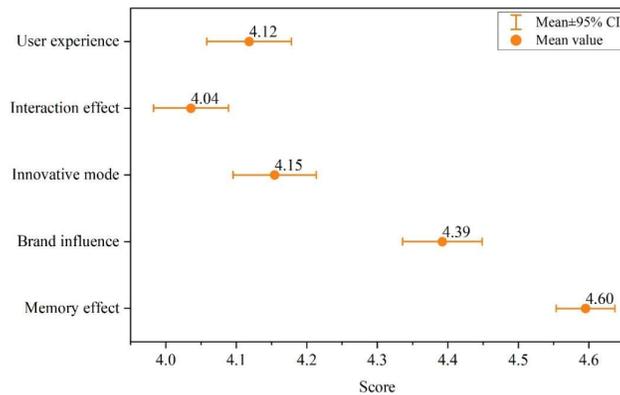


Figure 2: Results of the survey of digital communication patterns satisfaction

IV. Conclusion

Digital technology has revolutionized Changsha's city brand image communication, forming a development trajectory from "online star city" to "long famous city". Through the systematic study of Changsha city brand image communication, it is found that Changsha city image communication is characterized by multiple integration. The data show that Changsha's environmental image dominates the social media communication, amounting to 44.67%, in which the content of tourist attractions is particularly prominent; the cultural image communication accounts for 30%, reflecting Changsha's profound cultural heritage. Data analysis of social media platforms shows that the proportion of Changsha city image-related content with more than 100,000 likes is 23.29%, much higher than the proportion of comments (4.14%) and retweets (1.80%) in the same range, demonstrating the good communication effect of Changsha city image on social media platforms.

Changsha innovates the communication of its city brand image through three modes: differentiation strategy, experiential marketing and integrated communication. The differentiation strategy makes Changsha's city brand image highlight "fashion capital" and other labels; experiential marketing creates an immersive experience by using VR/AR and other technologies to deepen the audience's impression of the city; and integrated communication breaks down communication barriers to build a three-dimensional image of the city. Resident satisfaction survey shows that citizens' satisfaction with the effect of digitally driven Changsha city brand memory reaches 4.6 points (out of 5), and their satisfaction with brand influence is 4.39 points, reflecting the effectiveness of the digital communication model.

Digital technology-driven city brand image communication mode innovation not only expands the channels and space for city image communication, but also improves the communication effect through multimedia presentation, interactive participation, personalized experience, etc., which provides a strong support for the construction of a city brand with strong attraction and influence.

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