

Research on the Innovative Design of Digital IP Images Based on the Perspective of Traditional Chinese Medicine Culture

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Abstract. Taking traditional Chinese medicine (TCM) culture as the entry point, a cycle system of digital IP image design of TCM culture was formed in combination with digital technology means, meeting the diversified development of IP image and realizing the dissemination and innovative transformation of TCM culture. The IP image design system was constructed by defining the theme of TCM culture to form the core concept, produce creative design, and diversify dissemination and promotion, which was also used to guide the design practice and produce the IP image of "Super Herbs and Herbal Family". The innovation of digital IP image design of TCM culture, which is the innovation based on the traditional IP image design method, is the trend of the times that needs to take into account a variety of derivation modes, thus providing designers with design method guidance and satisfying the public's demand for knowledge popularization at the same time.

1 The Development Status of TCM Culture

As an excellent traditional culture of the Chinese nation, taking traditional Chinese medicine (TCM) culture is an indispensable part of the prosperity of the nation as well as the protection of people's health. Therefore, with the high development of modern medicine nowadays, how to revitalize TCM has become an urgent problem to be solved. The development of digital information technology provides a new impetus for the dissemination of TCM culture, such as starting from the digital IP image design to establish a new cultural dissemination path through a series of means like integrating channel analysis, producing innovative methods, and designing practical applications for enhancing the attention while displaying the culture and make the concept of Chinese medicine health deeply rooted in people's hearts.

As one of the Chinese traditional excellent cultures, TCM culture has been inherited and developed in China for thousands of years as well as continuously developed and improved in the treatment of disease and the search for health, which covers a wide range of content with varied systems and complicated structures. The introduction of the "Healthy China 2030" Blueprint [11] points out how to carry forward the advantages and charms of displaying the TCM culture in the context of national health, making the public recognize and accept the Chinese medicine diagnosis and treatment and laying the foundation for the characteristic development of the TCM. With the steady development of the economy, the state attaches more importance to the inheritance and development of TCM culture, and people's demand for their health level is also increasing

day by day. In this context, we should carry forward the cultural characteristics of TCM with firm cultural self-confidence, dig deep into the relationship between TCM and life from the source, and use scientific and rational means to promote the demonstration, dissemination, and application of TCM culture, ensuring TCM better promote the national health as well as the development of social health culture.

2 Necessity of Digital Communication of TCM Culture

2.1 Digital innovation is an important means to spread TCM culture

With the development of digital media in recent years, the social value of TCM culture has become increasingly prominent. TCM as an intangible cultural heritage gradually integrated into the daily life of the public, arousing new demands for TCM culture dissemination to the public in the environment of rapid updating of visual information. Therefore, the definition of the image of TCM culture remodelling has a certain degree of practical significance. In the preliminary research, the author found that the advantages of TCM have been diluted under the influence of Western-style modern medicine, resulting in the lack of cultural confidence and development confidence in TCM for the public. In addition, the single means of current TCM communication and display failed to achieve a good publicity impact, so we need to take advantage of the digital means to perform innovative design on the basis

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of sorting out its cultural connotation, disseminating and promoting TCM culture in a diversified way.

2.2 Digital innovation provides a new mode for the dissemination of TCM culture

In the era of digital informatization, the presentation of visual symbols in TCM culture becomes the first step of digital innovation design. On the one hand, digital means have enriched the communication channels of TCM culture through multi-platform, wide field, and all-round form based on the advantages of technical operation, cracked the time and space limitations of the audience to understand TCM culture, and enhanced the audience's sense of experience from the figurative to the abstract. By focusing on the relationship between the TCM culture and daily life, digital means explored the beauty of its essence and paid more attention to the audience's autonomy in self-learning and exploring. On the other hand, digital communication means will shape the slightly boring TCM culture more three-dimensionally and modern after breaking through the image of TCM culture, creating an immersive browsing experience for the audience to actively explore the mystery of TCM culture.

3 Exploration of the Digital IP Innovation Path of TCM

3.1 The concept of digital IP image dissemination of TCM

In today's rapid development of digital informatization, there are more ways and means to disseminate the TCM culture, in which IP (Intellectual Property, which refers to the cultural and creative behaviour and results under the scope of intellectual property rights protection) [6] image design, as an innovative way of cultural output, attracts young audiences by presenting TCM culture in a more modern and youthful manner. In the creation of digital IP images, the following aspects need to be achieved:

(1) Moderate processing of TCM. Under the premise of scientific and standardized Chinese medicine culture and medical terminology, the TCM is processed more intuitively and added with some artistic content. IP image, a product of the digital era, is closely related to Internet digitization with its emergence. Therefore, we can make use of the artistic characteristics of the IP image brand and its high commercial value to turn the boring Chinese medicine culture into an artistic image that can be accepted by the audience, which increases the exposure of the content and new knowledge of Chinese medicine culture while enriching the cultural connotation to attract the attention of more age groups.

(2) The combination of the concept of product brand dissemination. The dissemination of TCM culture cannot be separated from the brand effect, and only through brand aggregation can we get better dissemination. The development of brand design has led to the emergence of brand IP, which can be said to be the emotional carrier of the brand, while the IP image is

the embodiment of the brand to adapt to the development of society [1]. The IP image applied to the brand can arouse the brand identity of the audience and visualize life-like scenarios, which is helpful to the brand's emotional proximity and facilitates the dissemination of TCM culture and brand promotion.

(3) Transformation of the interactive experience of scene application. The dissemination of TCM culture is essentially the transformation and output of knowledge concepts, in the process of which it is necessary to set up a scenario application environment for the public's understanding and acceptance of TCM culture. Therefore, it is necessary to make use of digital means to form the corresponding extension and expansion parts according to the different contents, which is conducive to maximizing the effect of dissemination. According to the classification in the literature, IP is generally divided into two types as storytelling IP and visualization IP, with storytelling IP focusing on the creation of character and storyline, while visualization IP focuses on the shaping of characteristic shapes [7]. In addition, digital IP development also has the advantage of three-dimensional interaction, which means a vivid and diversified IP image that combined with the characteristics of TCM culture can give the audience a better emotional experience.

(4) The drive of multiple demands by expanding channels. As one of China's traditional outstanding cultures, TCM culture has a long history and the rigor of the medical discipline, so the multi-channel fusion, the combination of traditional media and digital media, should be considered in the rapid and wide dissemination and promotion of TCM culture. As the product consumption brought about by the promotion of TCM culture is a normal consumption activity, we should adopt diversified products and multi-form experiences to guide consumers to establish confidence in TCM culture and form a benign and recyclable consumption power. The vertical development of IP image can not only continue to vertically expand the additional products but also horizontally expand the diversified consumer groups, forming a series of demands such as product consumption, cultural consumption, and experience consumption. By combining digital communication means and utilizing TCM cultural resources to create IP images, we can achieve the new development goal of integrating cultural, economic, and communication values.

3.2 TCM digital IP image innovation methods

The TCM culture and digital IP image design innovation were integrated to create a TCM culture IP image design method. The core starting point of the IP design of TCM culture is to establish a digital promotion system with both spiritual value and communication value, with the constructed methods as four stages of research preparation, creative divergence, design conception, and communication promotion.

In the stage of research preparation, the designer should define the design scope from the complicated TCM culture and conduct in-depth excavation by analysing the overall cultural characteristics,

understanding the cultural semantics, and selecting the cultural essence, with the suitable parts selected for subsequent design.

In the stage of creative divergence, we can refer to the more mature IP design characters in the market to summarize the main business content on the basis of research and analysis, with most of the IP image design including three parts of digital derivation, entity derivation, and offline experience [8]. Digital derivation, which has the advantage of multi-dimensional and multi-sensory interactive experience, means adopting digital information technology to provide technical support and ideas for the development of IP images, such as expression pack design, computer ime’s skin, NFT digital collections, related cell phone APPs, small programs, and interactive games. Entity derivation is the most common way to display IP images at this stage, such as using dolls, stationery, books, clothing, packaging, and other carriers to display IP images. Therefore, the IP images of a series of products like health tea bags, TCM bags, and decoction pots related to the TCM culture can be applied to reflect a certain degree of practicality. In addition, the use of many IP characters co-branded with well-known brands to develop peripheral derivative products in recent years has been well received by the market, because the co-branding of the two sides at the same time can be achieved while the fan base complements each other, as well as realize the diversity of the image on the basis of their own original IP, achieving the double effect of the brand advantage. The offline experience is more comprehensive than the first two, with flash stores, theme parks, themed exhibitions, and online interaction as one of the forms. In one word, consumers can continuously provide clouts to the brand through online interaction to the offline dock in and photo feedback back to the online, enhancing user stickiness (Shown in figure 1).

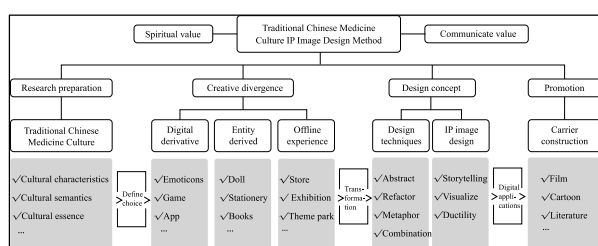


Fig. 1. Design method of IP image of traditional Chinese medicine culture

In the stage of design conception, design techniques like abstraction, reconstruction, metaphor, and combination were applied to perform secondary symbolic information extraction, cultural characteristic concise, and design transformation of the predefined and selected TCM culture on the basis of establishing a good overall design idea, forming both emotional and creative element symbols. Finally, the IP image with TCM characteristics was designed after determining the design classification of the IP image in combination with the modernized and digitalized design backgrounds.

In the stage of the subsequent dissemination and promotion, it is necessary to make full use of relevant

carrier platforms, such as film and television advertisements, animation and cartoon, and literature and novels, to perfect the application of the IP image to the relevant carrier platforms, and to form a full-process publicity system from design to promotion through the secondary processing and publicity of the carrier platforms.

4 TCM Digital IP Innovation Design Practice

4.1 Definition of the design theme scope

The first step for IP image design under the theme of TCM culture is to define the required scope. With a wide range of TCM-related information recorded in China's history, the reliable and scientific content that is recorded in the historical documents and published in the official publishing house rather than the content based on the lack of scientific basis, literary fiction, myths, and legends or proved to be incorrect should be selected. Next, the screening of information can also focus on representative figures in the history of TCM, such as Li Shizhen, Sun Simiao, Bian Que, Hua Tuo, Zhang Zhongjing, Qian Yi, and Yang Jizhou, with an emphasis on digging out their positive contributions in the field of TCM culture. Then, the scope of design can be defined from the relevant masterpieces of TCM, such as the *Compendium of Materia Medica*, *Herbal Food Medicine*, *the Treatise on Cold Damage and Miscellaneous Diseases*, *Key to Therapeutics of Children's Diseases*, *Prescriptions Worth a Thousand Pieces of Gold for Emergencies*, *the Playue Theory*, and *Classic on Medical Problems*, from which the correct exposition should be selected. In addition, the choice of Chinese medicine culture related to Chinese medicine prescriptions, Chinese medicine medicinal properties, and acupuncture therapy as the design theme should be supported by the relevant professional knowledge and professionals rather than nonsense. To summarize, theme selection, the beginning of good design, needs to grasp the rigor of the TCM cultural knowledge, reflect the spiritual and dissemination value of TCM culture, and be in line with the aesthetic tendency and knowledge needs of the audience in the current society, helping the young people enhance interest in the TCM culture and understand the attractiveness of the TCM cultural knowledge, so as to better develop the market and dissemination of the TCM culture.

Through the research of selected topics and field trips, the relevant thematic focuses in the student design practice include herbal health tea drinks, graphic recreation of Chinese herbs, internationalized dissemination of Chinese herbs, and visual innovation of TCM masterpieces.

4.2 Formation of the core design concept

After establishing the scope of the selected topic, it is necessary to gather the selected theme to further produce the core design concept, that is, to refine the classification of the selected theme and select a

representative reference to express the overall concept of the intention. For example, the students who focused on the Herbal Tea and Beverage group defined the core concept as "Super Herbs", the IP image design of the herbal family tea and beverage brand. Inspired by traditional Chinese herbs in the preliminary research, they selected the four representative herbs "Caulis Bambusae, Ginkgo Biloba, Ganoderma Lucidum, and Lycium Chinense" to break through the traditional Chinese tea design and create a unique tea brand loved by the young people through the creation of a lively and cute digital three-dimensional IP image (Shown in figure 2). In contrast, the students who focused on the visual innovation of Chinese medicine masterpieces

selected a classic Chinese pediatric book named *Key to Therapeutics of Children's Diseases* (which establishes the status of Qian Yi, the pediatric originator, by playing an important role in the development of modern pediatrics) [2] from the perspective of Chinese medicine enlightenment education to integrate the disease in the book with the illustration story by locating in the IP image of popular science design, which popularizes the TCM knowledge while introducing the commonly used acupoints, facilitating the parents and children to read together and use knowledge in the book to relieve children's discomfort, and playing a role in the promotion of the TCM spirit.

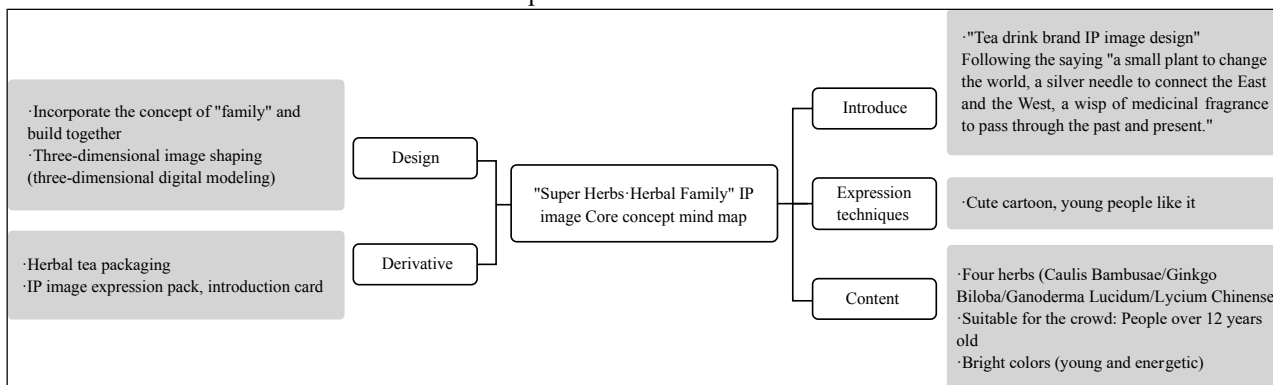


Fig. 2. Mind map of the core concept of IP image of "Super Herbs and Herbal Family"

In addition, in the theme of graphic re-creation of Chinese herbal medicine, many students in the group used illustrations from TCM masterpieces as the design source to popularize the knowledge of Chinese herbs for the young group, with the topic focusing on modern design techniques and the core thinking aiming to use abstract expression as well as simple graphic language to adapt to the fast-paced language of health maintenance of the young people nowadays. In addition, the planning of the IP derivative communication program has to be carried out along with the output of the core concept. By combining the three parts of digital derivation, entity derivation, and offline experience in the previous framework diagram, a general program conceptualization like the combination of a series of derivation carriers, such as tea packaging, digital illustrated books, pixel emoticons, and dynamic posters was carried out. At the same time, the brand effect can be used to form a scale of communication channels.

4.3 Output IP design image: "Super Herbs"—IP image design for herbal family tea beverage brand

"Super Herbal" is an herbal tea brand inspired by traditional Chinese herbs. Inspired by the four herbs "Caulis Bambusae, Ginkgo Biloba, Ganoderma Lucidum, and Lycium Chinense", the brand has created four lively and cute IP images to form the "Herbal Family". The IP image of "Caulis Bambusae" is named "Zhu Xiaoru", which is inspired by the saying "Fragrance comes from the East, evergreen bamboo in all seasons", with the hanging herbal sachet on the IP image symbolizing the good wishes of "May you hear

tidings of peace". The IP image of "Ginkgo Biloba" is named "Yin Xiaoxing", which is inspired by the saying "yellow leaves flying in an array, golden feathered leaves activating blood", with the elements of a medicinal herb collecting pannier on the IP image representing an herb collector who spends his whole day with the soil and nature. The IP image of "Ganoderma Lucidum" is named "Ling Xiaozhi", which is inspired by the saying "Lucid Ganoderma collected in the mountain, Ganoderma Lucidum brewed in a thousand year", with the herbal medicine bag added to the IP image symbolizing the concept of Ganoderma as a panacea for all kinds of diseases. The IP image of "Lycium Chinense" is named "Go Xiaoqi", which is inspired by the saying "Oriental plant power beneficial essence and bright eyes", with Compendium of Materia Medica held by Gou Xiaoqi reflecting the wide range of Chinese herbal culture. As for the IP color scheme, a young, energetic, and visually impactful IP color system has been created by adding gradient color changes while brightening the brightness of the overall color scheme on the basis of retaining the traditional colors of its image source. In addition, the students in the group integrated digital technology into the design and used digital modeling to three-dimensional processing of the original flat image, presenting the characteristics of IP images from a more vivid, diversified, rich perspective, which lays a good foundation for the subsequent digital dissemination and promotion (Shown in figure 3).

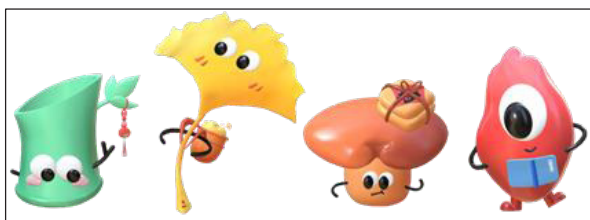


Fig. 3. IP Image design of "Super Herbs and Herbal Family" (from left to right, Zhu Xiaoru, Yin Xiaoxing, Ling Xiaozhi, Guo Xiaoqi, respectively)

On the basis of the establishment of the IP image, further digital derivation, entity derivation, offline experience, and other parts of the design, like the digital expression pack design, the IP image card, derivative packaging for related herbal teas, and the offline punch posters were carried out. In addition, the packaging design also uses "to be concentrate (with the pronunciation of concentrate and bamboo being almost the same in Chinese)", "may your heart's desires be fulfilled (with the pronunciation of heart and apricot being almost the same in Chinese)", "to nourish all things (with the pronunciation of nourish and Lucid Ganoderma being almost the same in Chinese)", "want to stick to somebody like glue (with the pronunciation of glue and Lycium Chinense being almost the same in Chinese)", and other harmonic ways to get closer with the public, breaking the stereotype of traditional Chinese herbs. With the theme slogan of "a small plant to change the world, a silver needle to connect the East and the West, a wisp of medicinal fragrance to pass through the past and present", the overall design makes use of the modern IP image to link the long history of China, ensuring young people feeling novelty while experiencing China's unique charm of TCM culture more immersed in the experience of China's unique charm of traditional Chinese medicine culture in a more immersive way (Shown in figure 4 -6).

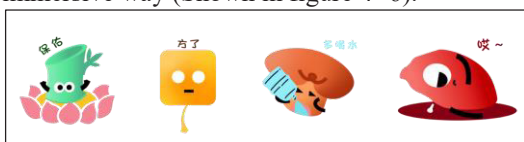


Fig. 4. Expression Pack design of "Super Herbs and Herbal Family"



Fig. 5. Derivative packaging design of "Super Herbs and Herbal Family"



Fig. 6. IP Image Card design of "Super Herbs, Herbal Family"



Fig. 7. Punch Poster design of "Super Herbs Herbal Family"

Summarizing the above case study, the method of digital IP image design for TCM culture can be summarized as follows:

- (1) Define the concept and further deepen the theme, which should contain certain spiritual value and communication values.
- (2) Form a diversified IP image design team, because the TCM culture has a certain degree of medical rigor, which needs to be supported by members with basic professional knowledge.
- (3) Form the design thinking of the "family" concept and expand the IP image design, with the family image making use of storytelling to better carry out IP publicity.
- (4) Implement the branding strategy of TCM cultural IP, and expand the brand influence through digital derivation, entity derivation, and offline experience.
- (5) Utilize digital technology and means to disseminate and present in a vivid, three-dimensional, and multi-sensory way.
- (6) Construct a closed loop of the whole process of "culture-concept-design-communication" to realize a new channel for the dissemination and promotion of TCM culture.

4.4 Design Innovation and Contribution

This study focuses on the field of digital IP image design based on TCM culture and attempts some innovative methods in order to provide some useful experience and suggestions for this field. The circulation system of digital IP image design of TCM culture provides a new platform for the dissemination and innovation of TCM culture. Secondly, a comprehensive IP image design system was constructed, which not only provided designers with clear design methods and guidance, but also laid a solid foundation for the digital dissemination of TCM culture. At the same time, the actual case of this study - the design and implementation of the IP image of "Super Herbs and Herbal Family" demonstrates the inspiration and efficacy of this research method. More importantly, this study emphasizes the digital IP of TCM culture innovation in image design adapts to the general trend of the development of the times and provides important guidance and inspiration for future research and practice in related fields.

5 Conclusion

The dissemination of TCM culture is facing unprecedented challenges in the current development of digital informatization, so the introduction of digital IP image in the dissemination of TCM culture and the

design method of forming IP image of TCM culture is in line with the trend of the times and are further deepened and extended on the basis of the traditional IP image design. The way of IP image makes the TCM culture more beneficial for the public to accept and learn, spreads the knowledge of TCM culture more systematically and intuitively, derives diversified products, and forms a closed-loop business system. With the deeper excavation and study of TCM culture as well as the continuous development and improvement of digital technology in the future, the digital IP image design of TCM culture will produce more possibilities in terms of content, experience, and dissemination.

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