

# User-Behavior-Driven Design Ideas, Traditional Cultural Intellectual Property and the Creativity with Digital Products: A Case Study on the Forbidden City Culture Application

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## ABSTRACT

This article takes the "Forbidden City Intellectual Property" application as the main object of study. By analyzing the marketing strategies of Forbidden City Intellectual Property in the launch of a series of applications and the characteristics of the existing application, this study takes several noticeable features of cultural creative product as main factors of cultural innovation success. The research of them is combined with network questionnaire research and social group interviews. through the summary of the Forbidden City Intellectual Property in the selection and structure of content, user interface design, feedback function settings and paid Column design ideas in four aspects, this study provides a reference value for the digital road of traditional cultural themes represented by the Forbidden City culture.

**Keywords:** Cultural Creativity, Design Ideas, Forbidden City, Audience.

## 1. INTRODUCTION

Intellectual Property (IP) means intellectual property rights in modern industries. In recent years the Palace Museum has developed from a single element in the marketing of cultural themes to become "super Intellectual Property", around all elements related to Forbidden City as the theme can be derived from film rights, television rights, animation games, Internet materials, digital products and other types of copyright development [1, 2]. The culture of the Forbidden City Intellectual Property mainly involves rich cultural resources such as architectural culture, traditional costume culture, cultural relics collection, bead and jade utensils culture and centuries-old crafts of Qing Dynasty history [3]. The material and spiritual products derived from these themes belong to Forbidden City Intellectual Property. The concept of IP develops as marketing support. Cultural marketing refers to the economic value of goods injected with cultural attributes and ideological spirit [4]. These special products rise to the scene, from the modern society's emotional catharsis needs. Everyone needs to find a sense of self-identity and cultural values of spiritual fit. Among the various types of software in the market store, the Forbidden City's series of applications fit the requirements of cultural marketing. One of the requirements is to understand that people love to listen to stories and history. At the same time, people want to be able to feel the scenes of royal splendor, so the literature, the Forbidden City relics, and

the user's online linkage intertwine together. Secondly, this cultural marketing to aesthetic enjoyment is the key to haunting the Forbidden City in all corners of the finely crafted millennium architectural techniques and unique design, so that the audience is the Forbidden City's beauty to attract attention. The marketing of sentiment is also worthy to be noticed. The Forbidden City's cultural heritage can become a place of emotional attachment to Chinese people. All these marketing needs and strategies are the current Chinese scholars' research interests [5-7].

A company's cultural heritage spirit and product output after the integration of the abstraction of general, designed, Intellectual Property, improved into a specific anthropomorphic or anthropomorphic image. In the market operation and advertising, the value of culture condenses into a visual hammer. The company uses the brand as a hammer to show its personality characteristics and impact the consumer psychology of the public while incorporating the company's philosophy and wedging it into specific brand perception with a verbal nail [8]. The brand image may be a logo, slogan, campaign even a craze, but the rejuvenation of the brand image is the source of motivation to maintain the brand's loyal users and to give it vitality and growth in the market. For example, Global luxury giant LVMH Group has announced its financial results for the first quarter of 2022. The report shows that revenue for the first quarter was 18 billion

euros, up 29% from 13.959 billion in the same period in 2021, a stronger than expected increase.

In the new wave of creative trends that traditional culture is gradually attracting attention, the Forbidden City in the modernization of cultural heritage has won many witnesses [9]. The study of the cultural Intellectual Property of the Forbidden City in Beijing is not only the understanding of a brand industry but also the study of cultural industry, cultural communication, brand communication, brand rejuvenation, and cultural value theory. This paper takes the Forbidden City Cultural Intellectual Property as an example to study the brand marketing and product design ideas of traditional cultural creativity in the digital era.

## **2. DATA AND RESEARCH METHOD**

This paper takes the Forbidden City series cultural Application as a research case, using a field survey and in-depth interview method. The experiment randomly arranged members who love Chinese traditional culture to download the app of the Forbidden City series and the same type of cultural app in the app store as of 2021-2022, considering the functional design, content delivery, touch and feedback settings, color aesthetics, details of applications, and holding a purposeful, planned, systematic and repeatable record of the reference value for use feelings, from a multi-sensory user experience of the applications, is evaluated in a multi-sensory manner. This paper also collected the results through online questionnaires and offline interviews, analyzed current market demand for Applications combining traditional culture and digital products, and compiled the findings together with in-depth interview records.

## **3. FORBIDDEN CITY IP APPLICATION DESIGN PRINCIPLES AND IMPLEMENTATION**

Palace culture can quickly adapt to changes of the digital age, the development of "Internet+ heritage collections" three-dimensional digital road: digital conservation, research, and display, to avoid the homogenization of digital museums due to duplication of cultural resources, technical features are not enough. In the era of connectivity, the Forbidden City, the use of promotional films to record the restoration process of the Yang Xin Hall, the collection of panoramic three-dimensional simple model data of Forbidden City, the collection of important halls, including the Taihe Hall, the Yang Xin Hall, and Qianlong Garden and the corner tower, including indoor and outdoor high-definition data, through photo modeling, three-dimensional scanning and other technologies to collect outdoor furnishings three-dimensional data and three-dimensional data of movable cultural relics, the content

of ancient and obsolete cultural resources flexible and clever transformed into the content presented in a modern way on cell phones and PCs, that is, the Forbidden City Intellectual Property that exploded on the Internet as soon as it was launched.

### ***3.1. Content selection and architecture: database structure and roaming narrative***

In the traditional project curation, the object to be interpreted must have a public traffic base, it can arouse public interest. Secondly, it already covers the documentation of academic research, the curator only needs to consider the classification, sorting, and design style of the physical exhibits. The information that the curator wants to express through the exhibition is also confined to the main style and characteristics of the exhibits, which is more restricted and simpler. The display of digital media products, on the other hand, needs to combine the display effect of the content with user experience and the sense of collision in this. It is also necessary to consider the parameters of user devices and the habits of user groups, the content of the display is not only controlled by the product itself but also by the release channel and customers. Curators also need to consider the psychology of the designer of the device, because they have control over the form of the final content presentation effect and interactive feedback [10].

In addition, some scholars believe that digital media is the projection of the ontology of computers in culture, and objects are available for users to access information, browse, explore and do other operations. Therefore, when presenting products in all aspects, digital media should consider content selection and structure design in addition to the traditional model. It should also take into account device parameters such as screen size, digital ratio, resolution and color elements, feedback operations, gesture echo types. The specific conceptual content of culture should not follow the traditional way of step-by-step. Culture need to break the mindset and change the flat sequential narrative line. It allows users to conduct self-search and immersive experience with the form of database search. For example, the page design of the Forbidden City Ceramic Museum fully takes into account the idea that people want to be able to tag and classify their collections when visiting real museums. In addition to using the timeline approach, it also conducts some class search keyword operations, which takes advantage of the digital product's distinction from the real environment.

### ***3.2. Design of user interface: realistic situational atmosphere and immersive experience***

The National Palace Museum in the ancient paintings of the Qing Dynasty court ladies themes more content, to "Prince Yong inscription book hall deep residence screen" as an example, exquisite brushwork, ancient colors, highlighting the late Qing Dynasty extravagant and graceful posture, the portrayal of heavy ink, color classical advanced, but also highlight the aesthetic interest of the ancient paintings of the ladies. Therefore, the Forbidden City Application in the meticulous restoration of antiquities combined with electronic devices can be written in the architectural monuments, rich dynasty atmosphere characteristics of clothing details, ancient books, porcelain, ink, furniture display, and other details in the cell phone screen end using high resolution and visual communication design to maximize the impact. The annotations in a specific collection or ancient book are collected in the relevant database and can be linked to the literature for study by touching the relevant hot zone. At this point, the picture screen also becomes the information carrier of the scene of "traveling through the past and present".

User portrait and scene determine the organization and reprocessing of the text material, so unlike the paper version of literary magazines or graphical science journals, the layout of the application should be properly adjusted according to the style of the column, the control of the amount of text should also be systematic and specific, while the obscure academic terminology text should be rewritten based on understanding, to clear the reading obstacles for the general audience. The application of Forbidden City IP not only in the collection display, but also the introduction of raw products to humorous, colloquial expressions like the general public. It also opens up in-depth research columns, to provide reference to the literature resources, using the principle of threshold design and taking into account the general reader and researcher's hobby.

### ***3.3. Feedback function setting: simulating the familiarity of user operation***

In all the function settings, the principle is to maximize the content display effect of the collection, making full use of the visual elements, and the historical and cultural background of the collection. Most critically, because of the intervention of digital technology and computer technology, poses an important challenge to the consideration of traditional content producers inform design at this stage. For example, since Yinzheng Beauty Map was first evaluated in the US Apple Software Store, the eight standard key feedback, three common operating gestures used in the version shown in its iPad device such as tapping to

switch pages, dragging to zoom in and out or move pages, sliding to navigate pages and manuscript scrolling are all common operations for iOS users, reducing the cost of time spent learning new software and the audience's experience is familiar so that they could focus on the unique content design of this product, and the average user does not have to worry about whether the operating system has difficulties.

To enhance the immersive experience of the atmosphere, the details that the production team focused on are also reflected in the best way, such as lifelike feathers falling, flower petals being blown by the wind and the simulation of the sense of gravity, the processing of the glow when the candle is swaying, all of which amplify the visual impact and infectious power. The dynamic behavioral control, and visual feedback of the navigation page and background page are also enhanced.

The purpose of the presentation in both animation and dynamic effects is not to expand the understanding of the content, but only to optimize the user-side experience and enable people to have an immersive and immersive feeling. However, if such settings are too deliberate, they will not only affect the performance and fluency of the application, bring about difficulties in technical operation and marketing costs paid by users, but also violate the principle of connotation over form, and lose the original intention of exporting traditional culture for the sake of coolness, ignore the cultural value of the brand.

### ***3.4. Paid column: user stickiness and product quality together***

In the past, there were many problems in traditional content publishing and media for the promotion and popularization of thematic content, such as narrow dissemination, single-channel, not rich enough content form, not fast enough forwarding, and deep separation between audience and platform, which made traditional content not influential enough and could not appear in life as a trigger. MAC and iOS developers believe that modern audiences blindly trust the pleasures and solutions offered by applications and do not think twice about paying for them, even without trying them out.

The research report also shows that there is a temporary lack of support for paid users. With a universal era of paid content yet to come, there are bound to be other channels for profitable income from this type of product. In the group interview, we learned that B, who is concerned about the issue of payment, said he often pays for his hobbies, and "as long as I am impressed enough, I can give in to the bottom line principle of charging". For a few students in the research to understand the family's financial situation, and love and support new things in emerging media,

they said, "If the content and design are great, and very present aspects of the Forbidden City, I am willing to pay." The premise is that the content and design are great, and fit the theme of the Forbidden City, then there will be some sense of technology, giving them a more intuitive feeling and visual impact in time to stimulate their interests. "After all, it's all creative work, and I don't mind paying for it at all."

#### **4. DISCUSSIONS ON INTERVIEW**

To renovate and present the ancient cultural theme of Forbidden City to young people, the Forbidden City IP has done a lot of measures in the brand building and communication strategy. In the communication platform to create a youthful image such as "the emperor is busy" QQ emoji package, "through the Forbidden City to see you" H5 game, "Yongzheng, feel yourself sprouting" contrasts cute persona; follow the trend of the times of excellent cultural creations such as "Palace Taobao", "on the new Forbidden City", one after another launched a thousand miles of rivers and mountains notepaper tiles, packaging beautiful Palace spring, summer, autumn and winter color lipstick; it also began to lend their strength to cross-border marketing. Cooperating with the Forbidden City for cross-border marketing brands to be divided into virtual and physical two categories: virtual online class partners are Tencent, Netease, and Jitterbug, and the entity class partners are Nongfu Mountain Spring, Kindle, Tao Heung Village, Cartier, Rebecca, digital life has the Forbidden City series app.

Using the online anonymous group, offline target data and a comparison of research results, this research selected five interviewees which are depicted as A to E in the following. Interviewee A, 26-year-old audience, who loves Chinese silk robe culture, B, 20-year-old who loves art and traditional culture, loves learning but not too much like social media. C loves social media and online culture. D is interested in new things, especially foreign news and media culture. E loves traditional culture and internet culture. in the following paragraph, this research conducted in-depth interviews and recorded the results of the interviews as representatives.

A, who is currently engaged in traditional culture Han costumes and original costumes, expressed the hope that traditional culture and digitalization and network media can have contact and integration, but she is more in touch with Han costumes and antique culture, not good at network media, so she is not concerned enough about its development. Game hobby to understand the Forbidden City culture series of hand games "Eizhen, Myriad pens a thousand mountains", that its experience is mainly reputation in the production of a good and immersive sense of graphics, that the plot control is slightly lacking. In terms of viewing products with cultural connotations, she emphasized that the

primary focus is on the graphics and music, the sensory stimulation angle, secondly on the content itself. She said that user stickiness is mainly dependent on the content. She emphasizes the dry goods, if the original content of the resources is small or only superficial science, there is no need to pay specifically for this, you can get the corresponding information in other large cultural sites and video sites. Due to her professional study and family culture, she knows a lot about the series of applications, the channels mainly cover the promotion of social accounts and the recommendation of various knowledge classes and KOLs, as well as the introduction of teachers and classmates to professional classes. In the interview, she learned that she has downloaded the daily Forbidden City in freshman year, and later downloaded the APP of the Forbidden City exhibition before visiting the exhibition in Beijing. For other Applications only to know at ease, other software related to traditional culture used crafts and ancient poetry dictionaries, after searching in the app store to summarize their habits and interests are the degrees of exquisite elegance of the application design. The topic is small and the content is longitudinally explored and richer. For its use of personal preference research, the Daily Palace and the ancient poetry dictionary, two of her preferred place is the information push mechanism and presentation form, the frequency of the daily push only need to use the fragmented time to access selected content, can also be generated into bookmarks, cards and other images for long-term preservation, to share with friends and repeatedly read. She said that after the formation of browsing habits in the use of it full of ritual, it gradually become a symbol of life. D focus on ethnic handicrafts, such as the niche APP Handicraft, which focuses on the heritage and teaching of traditional Chinese handicrafts, allowing people not only to appreciate artwork with a more professional eye but also to participate in the production and create their national style objects. So that busy city dwellers can slow down and enjoy a moment of peace in their busy, frenetic lives, and folklore. Non-folklore also shows the beauty of Chinese culture and conveys a valuable attitude towards life, which coincides with the perseverance and excellence preached by the Great Artisan Spirit. It is also the vitality of this software. The promotion of traditional Chinese culture has many areas for improvement, such as the audience being small. For example, the Forbidden City exhibition is such a beautiful but less frequently used software, user stickiness is not high enough. Once the audience's curiosity is satisfied, it loses its software vitality.

Compare with the applications whose content is relatively vulgar, less interesting entertainment gossip, and social news, the current traditional culture of digital products cannot attract the eye. For digital products, C is more concerned about the first is the source and quality of content, to explore the true reliability and reading

value, and the second is the form of presentation. This group generally prefers the elaborate processing of audio-visual combination of interactive products, such as the cooperation between Netease and the Forbidden City launched a few ink style games. Although the plot is a little cheesy, the sophisticated production to create the mood is very stunning. It makes paintings come to life.

It is difficult not to feel a sense of national pride and cultural identity. The third is the technology and feedback of operation. At this stage, many traditional culture and digital products combined with content production are limited by the limited technical ability of their producers, operators and the poorer computer foundation of the team. So the real creative design and content richness can be satisfied. However, the user client and cell phone experience is poor, which is also a major factor limiting its development. It is always unable to develop in an integrated posture, rather than digital. This is also a major factor limiting its development. It is unable to develop in an integrated manner, but always with digital products as the shell and "traditional cultural connotation" as the core. It is difficult to create a Chinese civilization in the new era in such a situation.

## 5. CONCLUSION

Taking the Forbidden City series Application as an example, this paper proposes the design principles of combining traditional culture and digital products. Firstly, the content selection and structure will adopt database structure and roaming narrative. Secondly, the user interface design should maximize the cultural elements and visual effects of the collection. Thirdly, the feedback function setting should be immersive. Fourthly, the paid columns of cultural creativity need to be based on user stickiness and product quality. When creating traditional cultural applications, we should be familiar with the user's memory inscription point, and measure between the entrance and gap of cognition. The most important thing that China's cultural and creative industry should do is to expand the influence of the trend of Chinese style. For example, rich characteristics of national customs, landscape monuments, complex patterns and accessories. However, it is necessary to prevent the abuse of IP elements such as clothing, patterns, characters and other symbols. It's necessary to prevent the formation of rigid thinking patterns, which will lead to serious homogenization of products and substandard content quality. When making this kind of special cultural resource theme-related Application, it is more important to design whether it is suitable for the technology to spread from the traditional culture and art knowledge itself, around the brand positioning and user portrait, to increase the innovation point and creative space. Otherwise, it will become a "chicken rib" in

product design, consuming a lot of unnecessary design and production costs.

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