Digital Development of Cultural Intellectual Property Drawing on the CBBE Model: The Case of the Palace Museum's Creative Industries

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Abstract. In the era of digital economy, how to transform traditional cultural resources into brand assets with extensive influence and lasting vitality has become an important issue. Although the digitalisation of traditional cultural intellectual property (IP) is becoming increasingly widespread, there is still scope for further research into the underlying mechanisms from a systematic perspective focused on brand asset development. Drawing on Kevin Lane Keller's Customer-Based Brand Equity (CBBE) model, this paper takes the Palace Museum's cultural and creative products as a case study to systematically analyse how digital technology acts as a core driver throughout the entire process of building brand equity--from recognition and meaning-making to evoking responses and achieving resonance. The study found that digitalisation has effectively solved the basic identification and memory problems of the Palace Museum IP through the construction of multiple channels, created its composite brand image through content innovation, won users' emotional identity through interactive experience, and, ultimately, it has achieved deep brand resonance by fostering a collaborative ecosystem. This study provides a systematic analysis framework and practical enlightenment for the modernization transformation and brand value promotion of traditional cultural IP.

Keywords: CBBE Model, Cultural Intellectual Property, Digitalisation, The Palace Museum's Cultural and Creative Products, Brand Construction

1 Introduction

Under the background of consumption upgrading and digital technology profoundly reshaping social life, the rich traditional cultural resources not only usher in new development opportunities, but also face the challenges of modern transformation. Generation Z has gradually become the main force of consumption, and they put forward higher requirements for the cultural connotation and emotional value of the brand. However, many traditional cultural symbols have outdated expression forms, single transmission methods, and are out of touch with contemporary life, which can not fully release their time value. Therefore, how to promote the innovative

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development of traditional culture and revitalize it in contemporary society has become an important issue [1].

The rise of cultural intellectual property (IP) provides a new path for the modern transformation of traditional cultural resources. The Palace Museum has successfully built a phenomenal cultural IP of "cultural creation of the Palace Museum" by deeply excavating its own cultural resources. Its success lies not only in the rejuvenation of traditional cultural elements, but also in the construction of a strong brand ecosystem through cooperative promotion, digital marketing and other means [2]. This shows that the key to value re-engineering is to regard traditional brands as cultural IP that can be operated in depth.

Digital transformation is the core driver of this transformation. From cloud exhibitions and digital heritage repositories to short videos and live e-commerce, digital means have broken the restrictions of physical time and space and realized the all-weather and multidimensional connection between cultural content and consumers [3]. The practice of intangible cultural heritage IP has also proved that the transformation of cultural assets into cultural products can be effectively realized with the help of strategies such as cultural scene and digital experience [4].

This study takes Kevin Lane Keller's Customer-Based Brand Equity (CBBE) model as its theoretical foundation, treating the Palace Museum as a super cultural IP brand, and explores how digital methods drive the construction of cultural IP across four layers: brand recognition, brand connotation, brand response and brand relationship. In terms of methodology, a literature review is employed to summarise relevant theories, whilst a case study approach is used to conduct an in-depth analysis of the process of digitally building the brand equity of "the Palace Museum Cultural and Creative Products".

The theoretical significance of this study is to try to innovatively combine the classic CBBE model with the digital construction of cultural IP. CBBE model provides a clear framework for creating a strong brand, emphasizing that brand power is rooted in the minds of consumers, which is highly consistent with the underlying logic of cultural IP with emotional connection as the core [5]. The existing studies rarely put the CBBE model in the digital context to systematically explain the construction path of cultural IP brand equity. This study attempts to fill this gap.

From a practical perspective, this study can provide a reference activation path for cultural resources and related brands facing similar transformation pressure. Through the analysis of the typical case, this paper systematically refines how to use digital means to transform profound traditional cultural symbols into super cultural IP with wide influence. Its successful experience in building brand equity can provide specific strategic reference for other traditional brands or cultural institutions that aim to reshape brand image, deepen user connection, and realize modern expression in terms of strategic positioning, digital narrative, and ecological operation.

2 Theoretical Basis

2.1 Cultural IP, Digitalisation and Brand Equity

In the context of cultural industry, cultural IP refers to a cultural symbol with unique cultural connotation, emotional resonance and commercial value. Its vitality stems from openness and adaptability [6,7]. Therefore, the unique cultural genes and collective memory carried by traditional brands make them contain the potential to become high-quality cultural IP [1]. The digital transformation provides a key driving force for activating these sleeping cultural assets [6]. From the perspective of consumers, brand equity is the differentiated response to marketing activities caused by brand knowledge, and it is an important yardstick to measure the value growth of cultural resources [5].

Based on the above, this paper defines the core concepts as follows: Cultural IP is a cultural symbol formed after creative transformation with traditional cultural resources as the core. Digitalisation refers to digital media technologies such as short video, e-commerce platform, cloud exhibition, etc. Brand equity focuses on the consumer dimension and measures the intangible value of cultural IP accumulated in the minds of consumers. The relationship among the three can be summarized as follows: Cultural IP is the value carrier, digitalisation is the driving means, and brand equity is the ultimate goal.

2.2 Four Levels of Connotation of CBBE Model

Keller's CBBE model is pyramid shaped and contains four layers of progressive dimensions. The first level is brand recognition, the core of which is to establish a significant breadth and depth of the brand. The second level is brand connotation, which is composed of brand efficacy and brand image. The former meets functional needs, while the latter involves psychological needs. The third level is brand reaction, including rational judgment and perceptual feelings. The fourth level is brand relationship, that is, brand resonance, which is manifested in behavior loyalty, attitude attachment, community belonging and active intervention [5].

2.3 Adaptability of CBBE to Cultural IP and Digitalisation

The digital construction of CBBE model and cultural IP has a high degree of theoretical adaptability. The model emphasizes that brand power comes from consumers' minds, which is highly consistent with the essence of "emotional connection as the core" of cultural IP. The construction process of cultural IP is the process of transforming cultural symbols into consumers' emotional experience.

The hierarchical relationship of CBBE model provides an ideal framework for analyzing the digital growth path of cultural IP. At the brand recognition level, social media and short video platforms can quickly enhance the popularity of cultural IP [2]. At the level of brand connotation, virtual reality (VR) and augmented reality (AR) technologies can generate immersive experiences, enabling consumers to perceive the cultural value embedded in IP [3]. At the brand response level, e-commerce live broadcast and micro-blog interaction can stimulate consumers' positive emotions. At the brand relationship level, fan communities based on common interests are formed

on the digital platform, and consumers change from passive audiences to active communicators, which is the highest level of brand resonance [7]. Therefore, the CBBE model provides a logical and operational analysis framework for understanding how the cultural and creative industry of the Palace Museum constructs brand equity through digital operation.

3 Analysis of the Palace Museum IP Construction Based on CBBE Model

Keller's CBBE model provides a stepwise path from consumer cognition to emotional resonance for building brand equity. The core of the model is that the strength and value of the brand will ultimately be rooted in the minds of consumers, which depends on consumers' long-term cognition, feelings and interaction of the brand. As a cultural symbol bearing more than 600 years of Chinese history, the essence of the digital transformation of the Palace Museum is to upgrade from a traditional museum to a super brand IP with cultural content as the core. This section will systematically analyze how digital technology can be used as the core driving means to enable the Palace Museum IP to complete the systematic construction and value-added of brand assets, and finally realize the transformation from a historical treasure to a top cultural brand, combining the four levels of the CBBE model.

3.1 Brand Identity: Digitalisation Makes the Palace Museum IP "Seen and Remembered"

Brand recognition is the cornerstone of the CBBE pyramid. Its core objective is to establish brand distinctiveness, enabling consumers to recognise the brand instantly and recall it first in specific consumption scenarios. In the traditional mode, the identification of the Palace Museum mainly depends on physical visits and limited exposure of mainstream media. This cognitive scene and frequency are strictly limited by physical time and space. The digital means have completely broken this barrier and greatly expanded the breadth and depth of the brand recognition of the Palace Museum.

In terms of breadth, the digital platform matrix has built an all-weather touch network of the Palace Museum IP (see Fig. 1). Liang Wen and other scholars pointed out that strengthening brand identity is the first step in building brand equity, and a stable and unified visual system can quickly improve brand awareness [8]. The Palace Museum has digitally reinterpreted traditional cultural symbols such as its red walls and golden tiles, as well as patterns found on cultural artefacts, ensuring a consistent presentation across various platforms including short-video platforms, flagship e-commerce stores and digital exhibitions. For example, the short video condenses the beautiful scenery and cultural relics of the Palace Museum into a visual spectacle, realizing the "lightweight" identification of a large number of users. The e-commerce platform binds the Palace Museum IP with daily consumption scenarios to strengthen brand emergence when users make shopping decisions.

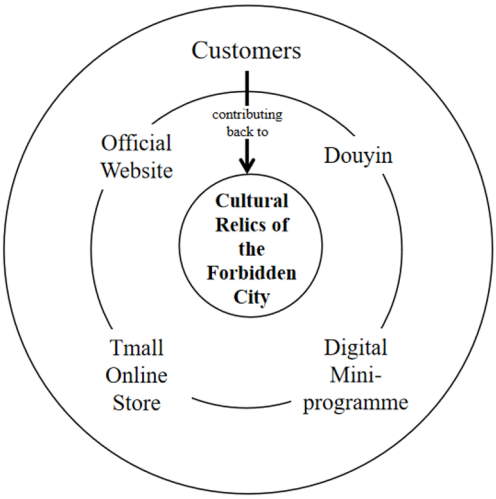


Fig. 1. Digital IP Operation Ecosystem of the Palace Museum Cultural and Creative Products.

In depth, the digital content is exported with continuous high frequency, deepening the brand's imprint in consumers' memory. "Digital Palace Museum", "panoramic Palace Museum" and other projects use VR technology to transform immovable architectural space into digital assets that can be accessed at any time. Through internet-based dissemination, the documentary series Masters in Forbidden City enables users to repeatedly "immerse" in the intrinsic fabric of the Palace Museum, thereby enhancing the brand's salience in the users' minds [9]. Digitalisation first solves the problem of the presence of the Palace Museum IP. Through accurate touch through multiple contacts, the Palace Museum can be seen more widely and remembered more firmly in the digital age.

3.2 Brand Significance: Digital Transformation Shapes the Palace Museum's Dual Image of "Culture + Youth"

Brand meaning is composed of brand efficacy and brand image, which is the comprehensive cognition of consumers on the core value of the brand. Digital empowerment of the Palace Museum IP has successfully created a unique brand image of "thick culture and youth coexist". The construction of this brand connotation needs to rely on product innovation and image building to simultaneously meet the functional and emotional needs of consumers [1].

In terms of brand efficacy, digitalisation has greatly enriched the value supply of the Palace Museum IP. Digital heritage repository, online cloud exhibition and other services expand the boundary of cultural experience, allowing users to enjoy cultural and museum services without leaving home. AR-enabled interactions bring the Along the River During the Qingming Festival to vivid life, enabling users to acquire in-depth cognitive insights that transcend static viewing. The game Painting Wonder: A Thousand Mountains integrates elements of ancient paintings to deliver an

entertainment-oriented aesthetic experience [10]. Digital products have realized the multi value supply from the use value to the integration of education, entertainment and ideas.

At the brand image level, digitalisation is the key engine for the Palace Museum to realize the brand rejuvenation transformation. The early "Yongzheng Acting Cute" memes, for the first time, deconstructed the solemnity of imperial power in a digital manner, injecting humorous and approachable personality traits. Subsequently, the cross-border linkage with various brands and the fermentation of social media through digital marketing continued to label the Palace Museum as "fashionable" and "novel". The narrative language on the digital platform has also changed from the official voice to the relaxed and lively network expression to establish effective communication with the younger generation. Domestic brands need to enrich brand connotation through continuous innovation. The digital practice of the Palace Museum combines the core of traditional culture with modern consumption habits. It not only adheres to the core positioning of cultural inheritance, but also adapts to the aesthetic and needs of young groups, and constructs a compound brand connotation with cultural authority and trend pioneer [8].

3.3 Brand Response: users' Trust and Love for the Palace Museum IP

Brand response is the comprehensive evaluation and emotional feedback of consumers on the brand, including rational judgment and perceptual feelings. The positive brand response stems from the long-term accumulation of brand reputation and the effective transmission of emotional value, which is the key driving force for the upgrading of brand equity.

At the brand judgment level, the high-quality digital content continuously output, such as 4K cultural relics documentary, academic online lectures, and excellent digital special exhibitions, constantly consolidate the professional reputation of the Palace Museum as a producer of high-quality content. Users thus formed a judgment: the Palace Museum is a rigorous and reliable cultural authority. The transparency and interactivity brought about by digitalisation also enhanced trust. The archaeological process was broadcast live and the details of the restoration of cultural relics were displayed, so that the public could enhance their recognition of the professional ability of the Palace Museum in the process of participation.

In terms of brand perception, digital means are particularly good at stimulating users' emotional resonance. The sense of control, the fun of game experience and the visual aesthetic pleasure brought by interactive design are all positive feelings triggered by digitisation. During the pandemic, the Palace Museum launched live-streaming sessions to invite the public to "virtual flower viewing," thereby conveying humanistic care and spiritual solace, and evoking profound emotions of warmth and security. This emotional connection makes users' cognition of the Palace Museum change from an organization name to a warm cultural partner. By creating emotional moments, digitalisation enables users to love the Palace Museum emotionally in addition to rational recognition, and regards it as an emotional carrier that can bring pleasure and a sense of belonging.

3.4 Brand Resonance: Users Become Fans, Communicators and Co-creators of the Palace Museum

Brand resonance is the highest level of CBBE model, representing the strongest relationship between consumers and brands, which is manifested in behavior loyalty, attitude attachment, community ownership and active intervention. By building an interactive ecosystem, digitalisation transforms ordinary users into loyal fans with a high sense of identity, and realizes the ultimate precipitation of brand assets.

At the level of behavioral loyalty, users continue to pay attention to the digital content of the Palace Museum, repeatedly purchase cultural and creative products, and form a stable behavior. The convenience of digital channels enables this loyalty to be practiced instantly and frequently. In terms of attitude loyalty, users deeply recognize the cultural values and innovative ideas of the Palace Museum and form irreplaceable brand preferences. This follow-up stems from the deep recognition of the brand image.

At the level of community ownership, the Palace Museum has built a cross regional fan circle through micro-blog, hyper voice, fan community, etc., in which fans share information, exchange knowledge, display collections, and form a strong group identity. This association of online communities has deepened the social ties among fans and strengthened personal brand ownership of the Palace Museum.

At the level of active co creation, the Palace Museum encourages users to carry out secondary creation, launch short video challenge, cultural and creative design solicitation and other activities, and users change from passive recipients to active content producers and brand builders. Users' self-made vlog, painting and sharing of the theme of the Palace Museum are themselves in-depth brand investment. This co creation behavior has upgraded the brand equity construction from the unilateral output of the Palace Museum to a dynamic process of collaborative creation with hundreds of millions of users. Built through digitalisation, the Palace Museum is a brand resonance ecology with cultural identity as the link, and users are highly involved, actively interact, and obtain meaning and satisfaction from it. Users are consumers, communicators and co creation partners, and jointly promote the sustainable growth of the Palace Museum's IP brand assets.

4 Conclusions

Based on the CBBE model, this study systematically analyzed how the Palace Museum, a traditional cultural symbol, successfully transformed into an influential top-level cultural IP through systematic branding operation in the digital era, and built a strong brand equity, providing a framework for similar practices.

The research results show that digitalisation is the core support for the Imperial Palace IP to complete the four-tier construction of brand equity. First of all, at the level of brand recognition, the diversified digital channels and contents have realized the extensive access and high-frequency exposure of the Palace Museum IP, effectively solving the basic problem of "being seen and remembered" of traditional culture. Secondly, at the brand meaning level, digital innovation means have successfully created a composite image of the cultural heritage and youthful vitality of the Palace

Museum, making its connotation innovative while maintaining integrity. Furthermore, at the brand response level, high-quality digital experience not only consolidated user trust, but also stimulated deep-seated love and recognition through emotional and interactive design. Finally, at the highest stage of brand resonance, digital ecology has transformed users into highly participatory fans, active communicators and active co creators, forming strong community ownership and value recognition, and realizing the deep integration and resonance of the relationship between brand and users.

Future research can further explore the application conditions and efficiency differences of this model in different types of traditional cultural IP, as well as the deeper innovation of intelligent technology on cultural brand building mode.

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