

Information Innovation of Tourism Cultural and Creative Product Design under the Background of Big Data

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Abstract: There are a few cultural and creative products that combine urban tourism culture with information design. Combining urban tourism culture with scientific and technological information can make urban tourism products more meaningful, allow more people to understand the cultural characteristics and local customs of each city, and make urban tourism products more unique and individual. The purpose of this article is to study the information innovation of tourism cultural and creative product design. The value of this paper based on big data and cloud computing technology lies in that through rapid processing and analysis extraction technology, data is continuously mined and reorganized to form new valuable information. Introduce big data and cloud computing technology into the development of tourism characteristic cultural and creative products, use big data technology to tap tourism characteristic cultural resources, analyze the similarities and differences between modern product design strategies and regional cultural creative product design theories, and define cultural creative product design strategies objectives and design theories, methods, form the design and development model of tourism cultural, and promote the development of regional economy.

1 Introduction

Cultural resources are the core of the development of cultural and creative industries and the driving force of regional economic development. The development of each regional cultural industry is based on the full exploitation[1]. The value of regional cultural creative product is not only the function attached to the product itself, but also the unique regional cultural charm and connotation contained in the product [2].

Design is a creative activity. Data can play an active role in the design and development process. Design audience, user preferences, market demand, market dynamics, consumer psychology, their expectations and demands for new products can be quantified by data [3-4]. Through the growth of data points, we can find the relevant relationship, so as to change the original perspective, promote the innovation and evolution of the concept and method of cultural and creative product (CCP) design and development, so as to adapt to the development of modern society. Consumer data is divided into descriptive data and behavioral data [5]. Including consumer profile, type and mode of purchase combination, behavioral tendency, personal interest, hobbies, age, literacy, cultural level, places where people usually come and go [6-7]. Collect these bit by bit, scattered unstructured data and form a comprehensive database of consumers. Through the analysis of the database, we can predict the potential relationship of things. If two events often occur together, we can predict the occurrence of another event through one event [8]. By comparing the current situation and trend of the development of design industry in different regions, and combining the factors of environment, culture and economy, the paper puts forward the principles, objectives, characteristics and specific development models of effective regional cultural creative product design strategy, so as to adapt to the development means and concepts of tourism featured products [9]. Regional CCP development refers to the development of design behavior and structure around the needs of CCPs, and its core lies in the regional characteristic cultural connotation behind CCPs [10-11]. Nowadays, the speed of technology replication is extremely fast, the homogeneity of market products is serious, and the

increasing individuality and diversity of consumer demand make the existing development mode of CCPs unable to adapt to the new competition situation, which requires enterprises to update the development process, development method, organizational structure and strategy of CCPs to adapt to the development of modern society [12].

After mining and deconstructing tourism cultural resources data, this paper makes these cultural resources data show the essential form of backbone data, edge data, clean data and dirty data. In view of the relevance and timing of these data shape nodes, this paper analyzes the characteristics and constructs the hidden knowledge expansion model, focuses on the prediction and detection of cultural data resources with tourism regional characteristics and available for development, and describes the natural attributes and social and economic values of cultural resources with tourism characteristics in a static and dynamic way. On this basis, the digital deconstruction of resource information becomes a data node, and finally forms a big data resource aiming at tourism regional characteristics and containing commercial value and social value. These data hold the pulse of the market tightly, reflect the starting essence and the source of the behavior motive force of the consumer's cultural consumption behavior. It will be the essence and basic point of the leading commercial economic value.

2 Method

2.1 Big Data

The global data volume is increasing exponentially. The traditional data acquisition, storage, management and analysis application capabilities are increasingly unable to meet the objective requirements of the new information age, and human data emerged. Although different scholars and research institutions have made in-depth research on big data from different perspectives, they have not reached a consensus on the meaning of big data.

2.2 Characteristics of Big Data

One is volume, that is, the volume of data is huge. With the development of big data, its measurement unit has jumped from TB level to Pb level (1000 t) or even EB level (1 million T).

The second is diversity, that is, data types are diverse. Moreover, the mode of data generation and source is not obvious, even no mode. Therefore, better recording and saving these unstructured information and data is the main problem to be solved in big data storage.

The third is high speed, that is, high processing speed. Fundamentally different from the traditional data, the most significant feature of big data is that the processing speed is very fast, good at managing and analyzing the dynamic data flow. Massive data is being continuously produced and stored, which requires real-time synchronization of big data analysis and utilization. Therefore, how to deal with these data timely and effectively is an important issue for the government.

Fourth, value, that is, data value is high, but value density is low. Through deep and complex analysis and processing such as machine learning and artificial intelligence, we can find relevant relationships from massive data, analyze the future trends and patterns predictably, and obtain the value contained. Therefore, it is urgent for local governments to realize rapid data value "purification" through modern information technology.

3 Experiment

3.1 Creative Product Development Path Supported by Big Data

The development of tourism regional cultural creative products means that the design behavior and structure are carried out around the needs of cultural creative products, and its core lies in the regional characteristic cultural connotation behind cultural creative products. Nowadays, the speed of technology replication is extremely fast, the homogeneity of market products is serious, and the consumer demand is becoming more and more personalized and diverse, which makes the existing

development mode of CCPs unable to adapt to the new competitive situation, which requires enterprises to update the development process, development methods, organizational structure and strategy of CCPs to adapt to the development. We can divide the development and design route of tourism characteristic creative products into three radiation modes: point, line and area. These three models have different characteristics.

(1) Point radiation mode

Point radiation spreads from one point to the surrounding cultural resources. From a static point of view, with a point of regional characteristic cultural resources as the center, its mining depth, resources, technology and other conditions are relatively sufficient, and the efficiency of cultural creative product design and development may be higher. And form a development path or mode with a certain cultural resource as the center, radiate and promote to the surrounding resources, feed back the field or region of poor cultural resources, realize complementary advantages, and at the same time, in the process of collision of two or more cultures, new thinking development will occur.

Linear radiation model

Based on the main line of a characteristic cultural element in the region, it pushes forward to the surrounding cultural areas. First of all, we will take the main cultural resources of the tourism area as the basic line, form a radiation trunk line for the development of regional characteristic cultural resources, concentrate resources and technology to give priority to the development of CCPs, and push it from the horizontal and vertical directions of the cultural mainline. The cultural heritage, connotation, history and other available element resources of the radiation trunk line are relatively high, forming a gap with other surrounding cultural resources, and the degree of other cultural characteristics resources is relatively low. Based on the development experience of characteristic cultural resources radiating from the main line, promote the design and development process, design method, thinking mode and ideology of cultural resources in other fields, and realize complementary advantages.

(3) Surface radiation mode

The design and development path of point radiation and line radiation greatly speeds up the development of cultural creative products and regional cultural resources in the region, and forms the main line of characteristic cultural resources with the central cultural resources or main cultural resources as the core. Other cultural resources in the region are connected with the main line, becoming a strong radiation source and radiating to the surrounding cultural resources. In a specific region, such a radiation pattern forms a type of surface radiation pattern. The main development mode of surface radiation is spread cake radiation. The type of spreading cake radiation refers to the communication from a relatively high cultural resource development to the development of surrounding cultural resources. With a kind of cultural resources development experience, way, method, way, etc. to the surrounding cultural resources. The process of this kind of radiation is wide and complete, with high efficiency and small resistance. It is not easy to appear the blind area of regional development, which has great reality.

4 Discuss

4.1 Analysis of Experimental Results

Consumers buy CCPs that are suitable for them according to their preferences and cultural understanding. Consumers will purchase products after making relative comparison in terms of product functions, colors, prices, materials, etc. Therefore, the corresponding design positioning statistics of CCP design in the tourism area are shown in Table 1.

Table 1. Design positioning

Design positioning	
Consumer positioning	CCP collectors, tourist groups, young people
Consumer age targeting	16-45 years

Price positioning of CCPs	50-300 yuan
Decide on the purpose for consumers to buy tourism CCPs	Functionality, aesthetics and practicality
The main forms and styles of CCPs favored by consumers	Creativity, aesthetics, environmental protection, practicality

The market positioning of CCPs can be investigated according to the attributes of consumers' gender, age, education level, etc. We need to locate the consumers of cultural product design. According to their purchase intention and price demand for the product, I have made a "CCP questionnaire". The conclusion is as follows: as shown in Figure 1.

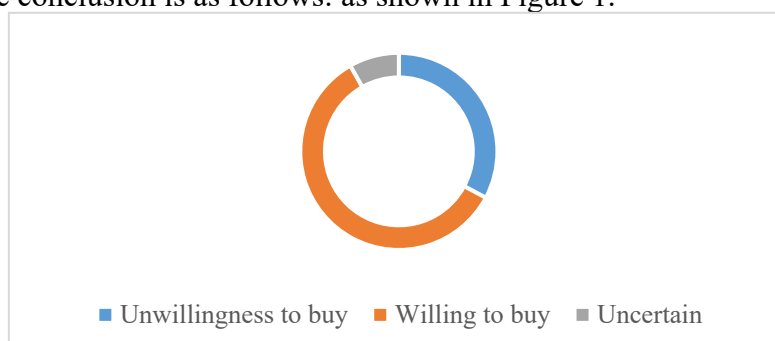


Figure 1. Chart of purchase intentions

It can be seen from the figure that 32.8% of people have purchase intention for CCPs, and 20% of people are not sure whether to buy. According to the survey results, the purchase intention of male consumers is 20%, while that of female consumers has exceeded 30%.

4.2 Big Data Cooperation Design Analysis

The conception stage of cultural creative product design directly affects the success or failure of creative product development, which is the starting point of the development of regional characteristic cultural products. The main task of this stage is to identify and evaluate the cultural resources such as tourism characteristic culture, folk custom, history, etc., so as to select the concept for further creative product development and find out the representative tourism cultural elements for the development and design of creative products.

The traditional design conception process has various methods and strong logicity. According to the project and the necessary design methods, the designer looks for the internal factors to design. It is easier and more comprehensive for designers to mine design concepts and related relationships, and the design content tends to be simplified. For designers, these data can not be directly used as the theoretical basis for the development of creative products, but designers can analyze and integrate massive data, insight into the needs of consumers, coordinate the relationship between user needs and market, extract product connotation from more macro and deep level design innovation, help designers improve and innovate existing products, and then form Regional cultural products with market competitiveness, in order to obtain higher economic benefits, and promote the development of regional economy.

After any product is developed and put into the market, it does not mean that the whole product development process is over. The process of design and development is a process of continuous market inspection, repeated correction and improvement. Enterprises need to constantly track the market, accept the market feedback, and study the response and perception of different consumers to their regional cultural creative product design, so as to carry out the later stage of the circulating creative products Continuous optimization. Using the information and organization of big data platform to establish the after-sales feedback mechanism of creative products, the follow-up tracking of enterprises is easier to achieve. Enterprises can mine relevant data resources through big data platform, retain and integrate the shopping traces of consumers in the evaluation of users, form effective information, mine and analyze the dynamic experience data of creative products after use, and find valuable hidden data Sexual demand, and such invisible demand has an important guiding

role for the innovative design and renewal of regional characteristic CCPs.

Conclusion

CCPs will change the design thinking, methods and business operation ideas of regional CCPs, and control the overall content of tourism regional cultural and creative industry structure design, comprehensive design management, product R & D mode, design positioning, etc., and propose Effective creative product design strategy formulation principles, objectives, characteristics and development model. The analysis and improvement of cultural information data will help cultural and creative design entities reduce product development risks and quickly adapt to the market, while also effectively leading the development direction of CCP design with regional characteristics of tourism.

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