Vol.1 No.12 2020
https://doi.org/10.37420/j.cer.2020.131

Transformation of Cultural Heritage and Digital Cultural Tourism Products of Ethnic Minorities in the Southwest of China

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Abstract: *The article raises issues related to the global and local management of natural and cultural heritage sites. An efficient way to generate cultural space into an interactive digital platform is proposed. It is shown how the expansion of the scale of cultural tourism of Guilin can be reproduced using digital tools. The study shows a new interpretation of the submission of cultural information. A method has also been proposed for using digital applications to popularize the historical and cultural heritage of the South-West region. Also shown is a way to generate cultural space, cultural symbols through the tourism industry. The author analyzes the multifunctional digital product "Lian", which is based on creativity, and displays the design paradigm of digital creative cards. Also proved the effectiveness in the perspective of scaling creativity. An integrated interactive platform can claim to be a multitasking aggregator that can satisfy any requests. "Lian" is a vivid example of the subordination of digital technologies to serving culture. Popularization of the region's ethnic heritage. The author hopes to explore the new form of tourist souvenirs in the framework of the "Internet +", thinking through the design paradigm of digital creative cards. At the same time, I hope to contribute to the expansion of cultural tourism. Received good responses among users of different age categories. Performing the basic functions of cards, they can also create entertainment effects and are more popular. Such a design not only satisfies the psychological needs of people, but also increases the added value of souvenirs. Recreation of the socializing effect.*

Keywords: *Scaling of creativity; Interactive platform "Lian"; Integrated postcard; Creative digital art; Ethnic cultural heritage*

Introduction

The number of Internet users worldwide is steadily growing, and this growth has made (and continues to make) a revolution in the tourism industry. The Internet has become a major impetus for the promotion of tourism as a global and regional network (Sigala & Marinidis, 2012). As part of this trend, in recent years, access to Smart technology in China has increased dramatically (Gretzel, Sigala, Xiang & Koo, 2015). In addition, China is now ranked second in the world in the number of home Internet users, and this is more than 800 million people.

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There is no doubt that business structures are actively involved in the process of using and scaling their goods and services via the Internet (Kehal & Singh, 2005). Including tourism business ((Gretzel, Sigala, Xiang & Koo, 2015), as one of the main sectors of the economy of many countries. In China, this industry is actively involved in the technological process and is progressing extremely rapidly. E-tourism generates information that is collected in mobile hubs for further use by marketers, business analysts, sociologists and other industries (Kehal & Singh, 2005). Intellectual tourism is phenomenal in its interaction in real time not only with the physical environment, but also with the community of travelers (Anttiroiko, Valkama & Bailey, 2014).

Smart-tourism - creates and supports the exchange of tourist resources and the joint creation of tourist experience. This is a complex business ecosystem, which is characterized by digitization of the main business processes in the field of tourism. The core aspect is intellectual technologies, which are dynamically interconnected with various sectors (between the government and business sectors) (Harwit, 2004). The orientation of intelligent technologies occurs in reverse communication between producers and consumers of the infrastructure (Buhalis & Amaranggana, 2015). Sociologizing effect prevails in Smart-Tourism, which is very plastic, dynamic, has the characteristics of creative organizational flexibility (Gretzel, Sigala, Xiang & Koo, 2015).

The southern region of China is also known for its ethnic groups (56 ethnic groups), which for many centuries have retained their authenticity, the richness of traditions, the uniqueness of customs and rituals (Harrell, 2011). They represent a peculiar mix of ethnic cultures (Yang, Wall & Smith, 2008), which have created an integral part of China's common cultural heritage. Zhuàng Zú, Dòng Zú, Mùlǎo Zú, Gēlǎo Zú, Miáo Zú, and many other groups have formed a special cultural atmosphere of southern China (Mackerras, 2003). First of all, self-identification is reflected in the multiplicity of languages and dialects, religious preferences.

A peculiar lifestyle preserves the ethno-uniqueness of China's centuries-old traditional heritage (Yang, Wall & Smith, 2008). Intercultural integration contributed to the fact that the popularization of the autochthonous ethno-system (rituals, festivals, peculiarities of everyday life and economy) has become one of the key components of the tourism industry in the South of China (Hansen, 1999). It is the ethnic nature of some tourist products of the southern region that made them famous and creative (Ma & Hassink, 2014; Hansen, 1999). Festivals attended by thousands of travelers every year (festival of bulls, festival of songs, celebration of various symbolic events), routes of eco-zones, tourist performances (workshops on crafts, fishing with cormorants, and much more) - this is what has become the creative basis of tourist business, and led it to the level of current use (Li, 2002).

The evolution of e-tourism occurs at an instantaneous scaling rate (Guo, Liu & Chai, 2014). Millions of sites, mobile applications, aggregators have become very popular among users around the world (Bick, Bruns, Sievert & Jacob, 2012). Online guides (Traveling guides) set themselves a task of paramount importance: attracting a client (Kehal & Singh, 2005). On the one hand, the use of mobile aggregators simplifies the "path" of a tourist (Schmidt-Rauch & Schwabe, 2014). Used in all countries, the TripAdvisor multitasking aggregator serves 315 million users annually and has become the owner of many large travel brands. Aggregators of a narrower purpose (hotels, food, transport) are very popular. For example, Booking and Airbnb have information about almost all hotels in the world and work in more than 70 countries. On the other hand, the use of mobile aggregators, their popularity, complicates this "path" for developers. To create a "new aggregator", first of all, a creative approach, creative thinking, non-standard forms are necessary.

One of such non-standard e-products can be “Lian” - an integrated interactive platform. Generating the core attractions of the region, the application can become a business online card of China’s southwestern region.

Materials and Methods

Objects of study

To explore the prospects of the tourist digital product, it is necessary to consider the statistics of the use of mobile applications by age criteria:

Age category	Degree of use	Use of mobile applications
Youth	High activity	by 97%
Middle-aged people	High activity	by 86%
People over middle age	Passivity	by 43%
Children (up to 8)	Passivity (probability of increase)	by 21%

Data on the use of mobile applications is very high. In addition, the dynamics of growth on average + 4% per month. It should be noted that the scaling of digital eco-systems is not only a promising, but also financially profitable area of activity.

The object of the study was the digital interactive postcard “Lian”. Representing the main objects (natural heritage, museums, tourist routes, tourist services) in a creative game form, “Lian” claims to become know-how to generate historical, natural cultural urban space with the cultural heritage of the region.

Analyzing the requests of travelers, the author studied the needs of some tourists who are planning a trip to China for tourist purposes. They asked their questions in an online chat on the forum of the tourist portal. It is known that Europeans are very active in traveling to China.

Comparison of the “requests” of tourists with the potential of “Lian”, the ability to meet the needs of tourists, will help give answers about the feasibility of promoting “Lian”, its scaling.

Here are some quotes from active users of mobile apps taken from the travel portal:

(1) Edward, engineer, 51, London. “I would prefer to use a mobile application where I could find the necessary information for me, as if “all in one”. If I go to the museum, for example, what can my child, who is still too small to listen to excursions, do?
(2) Linda, student, 27 years old. “I would really like to show beautiful photos that all my friends would see ... but Facebook is not supported in China ...”
(3) Emmanuele, airport worker, 43, Italy. “This is my first trip to China. I would like to plan my trip in advance. Choosing a route, clearly know the places where you can rent a car, where to apply in case of loss of documents, where the most beautiful souvenirs are sold... “
(4) Kaylee, 23, and Suzanne, 25, Netherlands. “We decided to spend the holidays in southern China. We

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want not only to see the sights, but also to meet new friends ...“
(5) Alice, 38 years old, design worker, Germany. “Advise which proxy server is better to use in China? What VPNs are blocked in the South?

If these quotes are analyzed, then all the existing questions and problems are obvious:

European tourists are accustomed to using mobile applications.

(1) They are confident that they can easily find the necessary locations.
(2) They plan their holidays according to relevant (relatively subjective preferences) requests.
(3) They are confident that they will be able to use interactive platforms to satisfy their requests.

Let us analyze what criteria does “Lian” meet? What services can provide? Can you meet the needs of potential travelers?

“Lian” refers to the sites of a reasonable (smart) design of tourism products. It includes the link between “people-souvenirs-the environment” and intelligent control technology. The main criteria of the program are “interaction, melting, creation”. It was created to improve the integration of information intellectual use. In addition to the general needs of people, emotions, things, and the environment, which are emphasized in the design of tourist souvenirs, especially in interface design, attention should be paid to the interconnection between these levels.

Main objectives:

- To cover various user needs while using;
- To purposefully implement the concept of intelligent control;
- Attract more potential tourists by advertising the tourism industry;
- Popularization of cultural heritage.

If traditional cards can only display images and text, and are linked via Postcard + New Media Technologies + Internet Platform, then “Lian” combines a video, text, audio, and augmented reality technology on mobile devices. Also allows visitors to get more information while gaining a unique experience. This is the most creative place for digital creative cards. The three previous elements (“interaction, melting, creation”) illustrate the functions and features of digital creative cards, as they are based on the creativity of the product itself. Based on this, creative gameplay which is made by tourists is the center of the relationship between products and tourists.

Obviously, “Lian” can more broadly reflect the cultural hue of Guilin. Creative “revitalization” of beautiful landscapes, some symbols of the region, objects of art, showplaces will attract more potential tourists to visit Guilin.

Results

The globalization of the modern world is steadily promoting the popularity of using mobile devices, and, consequently, the popularity of using mobile products. Global scaling processes have introduced mobile Internet into all sectors of human activity, including the tourism sector.

Creative digital product “Lian” is an integrated interactive card with a beautiful interface, high-quality functionality. The combination of video, text, audio and augmented reality technology on mobile devices allows visitors to get more information. This is the most suitable place for digital creativity.

Scaling a new creative platform “Lian”, you can focus on the traveler. The prospect of using this product may attract a significant number of tourists, thus increasing the potential of the region of the industry.

Analyzing the issues of potential tourists from the online chat, you should consider some aspects related to the optimization of the site “Lian”. Adhering to the logic of social requests, a number of factors must be taken into account. First of all, age categories, the needs of an individual character, the needs of different social groups.

With successful creative scaling, “Lian” can become the source material for creating new digital platforms. At the same time, it takes into account all the necessary tools. High-quality functionality. A key element is the emotionality of the product, which in the long term guarantees active use.

Let us consider the key paradigm of “emotionality” “Lian”.

	Functional “Lian”	Factors (regarding choice)	Potential results
1	Extensive information	Expanding the potential of travelers	Customized, location-based interactive services
2	Needs of a potential tourist	Choice of context-sensitive consumption (events/activities/services)	Making recommendations, referral/links to places of interest, food and rest
3	Providing the opportunity to share your travel experience	Help other tourists in the decision-making process	Recreate and strengthen the travel experience, point out the benefits and challenges
4	The ability to manage social networks	Build self-esteem and status in social networks	Fashion trends, when the status of a person rises, due to the provision of himself as an active traveler
5	Acquaintance with the cultural heritage of the region	Expansion of potential cultural and ethical opportunities for travelers	Educational result, aesthetic effect.
6	Economic benefits	Profitability, scaling	New product development, demand forecasting, crisis management and value co-creation.

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The table shows the functional data on the use of the product, which takes into account all the advantages of emotional design. As you can see, here "emotionality" is shown in dynamics. With successful promotion - this is one of the key elements.

Thanks to the "connected" platform and the effect of "interaction", more and more people are involved in entertainment with digital creative cards. Thus, on the basis of cards, a set of data requests "life-line-food-purchase-entertainment" can be created. Visitors can communicate with each other during the game, as well as entertain and interact with current needs. Visitors can check nearby hotels in the APP by previewing the hotel's internal scenes or checking room conditions. By exchanging entertainment with your friends at the same time, you can rent a car without leaving your home. Integration and interaction are key elements of the field of use.

The essence of "melting" is a kind of cross-border integration. Transboundariness itself is a kind of change, that is, openness. If you decide to cross the border, the foundation of innovation will be more durable; integration will be coordinated, and group intelligence will be implemented. Due to the effect of "melting" the card was recognized by children who could not resist the temptation to touch the "floating picture". In the card shop in Yangshuo, many children choose "digital creative cards". The most important reason is the interaction between games and science. The educational aspect of the postcard is reproduced. Children learn "cultural material" in a beautiful game form.

"Creation" refers to an innovative quote based on traditional cards. In combination with the previous "related", "moving" and "fusing" aspects, the functionality of digital creative cards has expanded considerably. This innovative way of internal and external. The user photographs and holds the "spots" between the palm. It creates the effect of the presence of the image. Cross-border reality is in its essence very active. Virtual image modeling stimulates creativity. The expected result does not limit the user's imagination, mainly by stimulating creativity. The game form promotes ease of use.

Visitors can take photos with a virtual image on digital creative cards or fold up various cards to create greater appeal. While taking photos, visitors can also share pictures with their friends. The communication function of the card has been significantly expanded (the ability to communicate, comment and send information among friends). This innovative approach from the inside, along with the new "Internet +" model, encourages visitors to explore innovative postcard content.

Taking into account the possibilities of the future development of virtual simulation, it is possible to combine the development with the activities of different spheres. For example, with museums of cities in the southwestern region. Having digitized (according to the "creation" principle described above), collections, historical artifacts and others, you can immerse the user in the metaphor of a virtual tour, "fitting" in a modeled object (the ability to make photo shoots, exchange views/impressions/photos). The user can simulate/reproduce/superimpose visual pictures on real physical objects.

Using the potential of "Lian" on the example of museums will help to popularize the historical and cultural heritage, and the game form will satisfy consumer demand. Suppose that a certain Englishman became a participant in such a performance and tried on military equipment from the nineteenth century. Or a group of

schoolchildren reproduced dinosaur skeletons from the China Karst Geologicsl Museum. The simulated object, presumably, will leave an unforgettable emotional impression. In addition, a personalized experience in the natural environment of the

In addition, there is a dialogue between the user and organizations (museum, park, exhibitions, etc.), the desire to actually visit a particular place is stimulated. Positive feedback in social networks is guaranteed, since the "interaction" function provides the opportunity for communication.

If such objects are concentrated in crowded places (central streets, places for festivals, shopping centers, etc.), then the use will also increase through the "melting" effect. High-quality floating presentation, alluring digital image effect will always attract not only children but also adults. Screen sizes can be different (small, large, medium) - the main thing is a properly reasoned marketing method of placement in the urban infrastructure.

Discussion

"Lian" can more broadly reflect a cultural hue. Makinging new digital creative products is a necessity of time (Bick, Bruns, Sievert & Jacob, 2012), as the digital era dictates new conditions in the market. Digital technologies contribute to the joint creative process of restructuring the tourism infrastructure (Bakıcı, Almirall & Wareham, 2013) at all levels, both economic (Schmidt-Rauch & Schwabe, 2014) and cultural.

Interacting with digital creative cards in combination with AR technology allows you to create virtual modeled scenic spots and interact with characters to give people a new and unique feeling. It can display video text and a virtual simulation image, so there is more information in it, and it can reflect the cultural connotation of the landscape of the southern region of China. Digital information is transmitted via the digital sharing feature in the APP application for digital advertising cards. The postcard communication function has been greatly expanded.

The dominant formula for creating content should be a bunch of "tour-buy-entertainment-feedback", which will greatly facilitate the comfort of tourists. Most likely, various requests from potential tourists can be satisfied (Guo, Liu & Chai, 2014). An important aspect of this is the fact that the southwestern region is more and more attractive for foreign tourists (Gretzel, Sigala, Xiang & Koo, 2015). For example, the popularity of using mobile applications among Europeans, Americans or other tourists should be taken into account. According to statistics, about 90% of users use mobile applications for planning/shopping/travel.

In China, there is a highly productive network of state monitoring of cyber-information (China Internet Network Information Center), the main task of which is to analyze the information traffic of all sectors, from infrastructure to social (Harwit, 2004). Despite the vastness of criticism from foreign institutions, the monitoring of the information space gives a very positive result. Internet content can be called more "cultural", ethically balanced, - such that corresponds to the paradigm of government (Zhu, Zhang & Li, 2014).

Another very important aspect is the monetization of tourism services. Due to the popularity of the Internet, widespread use of mobile devices, mobile applications, there is a decrease in the cost of tourism products,

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which entails some risks in the direction of lower prices (Kehal & Singh, 2005). A reduction in cost, therefore, increases the availability and popularity of travel services. If 30 years ago travel was considered the prerogative of rich and middle class people, then today the situation has changed dramatically in the direction of increasing the growth dynamics among the less wealthy segments of society (Sigala & Marinidis, 2012).

In addition, there are still obstacles. In most developed countries digital money prevails - credit cards, magnetic cards, web-money and others. But the countries of lower level of development, still cannot afford such a "luxury". The closeness of some payment systems also impedes the availability of products of the tourism industry (Gretzel, Sigala, Xiang & Koo, 2015). According to the author, this problem should be eliminated at the intergovernmental level, increasing the efficiency of the e-commerce system at the intergovernmental level.

Entrepreneurs face local problems. Distant (provincial regions) are particularly susceptible (Harwit, 2004) Among them are:

- lack of necessary resources for the creation/connection of e-tourism products;
- an imperfect legal system;
- lack of large-scale telecommunication opportunities for information transfer and others;
- specific business activities required special knowledge.

As well as problems of a psychological nature (Zhu, Zhang & Li, 2014):

- lack of confidence in technology;
- the society was not prepared for e-commerce;
- society was not ready to consume new digital products;
- online culture is specific;
- unavailability/misunderstanding to "digitize" tourism products

If the features of southern China are considered, then the solution of this problem should occur in a close relationship between the local population and the state. Given the ethnic specificity of the region, cultural identity, its uniqueness, the implementation of the project is possible only with government support (Zhu, Zhang & Li, 2014). The popularization of the spiritual and material heritage by scaling digital goods is a uniquely successful project. The state e-tourism subsidy program is one of the ways to solve problems.

Connecting "Lian" to the "Internet +" system will promote tourism creativity. Joint (state-level collaboration) creative processes help democratize society. Statistics on sociological parameters improves. Digital technologies make the connection between material and non-material areas, the culture becomes more interactive, more accessible (Bakıcı, Almirall & Wareham, 2013). The material and sociocultural fabric, as a fundamental long-term plan, should be maintained at the state level.

The question of ethnic groups plays an important role in this study. The cultural contribution of national minorities is significant. Despite the fact that the impact of globalization on minority areas was much weaker than on richer areas, they managed to preserve the authenticity of their cultures (Mackerras, 2003). This

is due to the fact that minority areas are generally less developed, less urbanized and less accessible to the forces of globalization. Consequently, they attract much less public investment and foreign capital (Harwit, 2004). But today, the vector of state policy in relation to national minorities has changed significantly. Given that the culture of minorities in the southern region of China is a key unit of the tourism industry, it can be argued that innovative technologies will be subject to the needs of this land rich in traditions. Connecting "Lian" to the "Internet +" system will create a new form of transformation of the cultural heritage of the region's ethnic groups.

Conclusions

Analyzing different in structure tourism products of different forms and types of functioning (state, joint ventures, multinational corporations, private small enterprises and others), it is possible to identify problems that will contribute to the development of the tourism industry. It also provides an opportunity to explore the existing challenges that may hinder the dynamic evolution of tourism in China in general, and in individual regions. Infrastructure and social indicators can be taken into account and improved.

Taking into account the laws of an economic nature, it becomes clear that the infrastructure macro indicators are stable. Geographical, climatic, demographic units are relatively stable, if you do not take into account unforeseen situations (natural disasters of the ecological plan, technological accidents, and other force majeure circumstances). The infrastructure indicators should also include the achievements of the IT industry, which in China is developed at a high level and continues to develop intensively. Governmental and sectoral IT support is proof that

Social indicators have a more plastic form, the adaptability of society in the modern world is very dynamic. The orientation of social intelligence is prone to plasticity, educational and creative development. Full-scale assimilation of mobile devices, self-education in the use of the Internet, has a very positive effect on the tourism sector, mainly dictates its new interface in the mobility of tourism services and goods.

Through the creation of new applications, APP will open up opportunities for opening stores of recommended goods, new tourist routes, excursions to the main attractions of the region. Famous scenic spots and unique features of the tourist areas of southwestern China are interconnected in one digital platform "Lian". Digital technologies stimulate a wider participation of both residents and tourists, creating the best synergy for the tourism business. Competition in this industry generates a creative approach in the search for new forms of luring customers, stimulates creative tourism, which is directly connected with the Internet segment.

In addition, e-tourism suggests that consumers have the ability to create and offer the value of a product. It means that the consumer has the ability to control and manage. Analyzing the main components, it is safe to say that by integrating some data (natural wealth, local experience, business proposals, tourism products) with new technological advances, the result will be efficiency, sustainability and enrichment of the tourism industry in the region. E-tourism is provided with the main paradigms of tourism infrastructure: "intelligence" - informing, data collection; "Relationship" is a correlation; "Intellectual processing" - data analytics, visualization, integration. Given that "Lian" has all of these characteristics, it can be assumed that "Lian" will be

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the aggregation point for using data from physical infrastructure, social networks, government, organizational sources, and human factors.

Planning for the future development of tourism should ensure greater control by local ethnic groups, cultural preservation and public participation in decision-making processes. Ethnic culture is used by the industry to promote, develop and preserve heritage. Guilin can be called a tourist ethno-hub in the South-West of China. Promoting ethno-tourism as a strategy for regional development is the task of the public, academics, state governments.

For the transformation of the cultural heritage of national minorities in South China to be successful, the state level support is needed. Investment in the tourism industry, subsidizing is a very important aspect of this area. For example, the Internet revolution in education in the early 2000s, had huge government investments. And today, the educational system of China is recognized as one of the best in the world. And all because there was investment in the education industry by the state.

Exploring the new form of tourist souvenirs, the author shows the feasibility of scaling in the framework of "Internet +". The cultural basis of the design paradigm of digital creative cards will contribute to the expansion of cultural tourism in the tourist attractions of the southwestern region of China. In the face of the development trend of "Internet +", designers should not only rely on the development, but also "cross-border integration", connect everything (from the inside to the outside) into the "Internet +" system. It will be integrated with the new model "Internet +", creating a new tourist environment, at the same time introducing innovations.

Funding

This paper is supported by the project of enhancing the basic scientific research ability of young and middle-aged teachers in Guangxi Universities in 2020, Research on the Construction of Intelligent Tourism Cloud Platform for Villages with Ethnic Characteristics in Guangxi [No. 2020KY05048].

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