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## Application research of tourism service personalization in IT industry

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### ABSTRACT

Currently, more and more personalized means of traveling, such as FIT tour and DIY tour, have emerged in the tourism industry successively. The traditional tourism service model cannot fully meet the personalized needs of tourists. Due to the rapid development and continuous and continues to maturity of e-commerce, tourism service enterprises began to apply modern information technology to the tourism service. As a result, tourism e-commerce and tourism IT platforms have sprung up, which meet the personalized needs of tourists to some extent. Thanks to these networks online services, tourists can check catering, accommodation, transportation, travel, shopping, entertainment and other required information, order travel services and necessities in advance, and make full use of various resources to successfully achieve their travel plans at home. Because of China's IT industry is still in the stage of rapid development, so this kind of service model has some deficiencies. For instance, due to the defective inter-industry cooperation and coordination, enterprises cannot achieve tourism information sharing; tourism service products are not comprehensive enough and searches are not flexible; personalized development of tourists and tourism innovation are largely hindered. This research fully analyzes the characteristics of tourism services, as well as the structural characteristics, elements and operation mechanism of tourism service supply chain under the modern information technology background. It also establishes a new concept model of tourism service supply chain. This model is based on personalized needs of tourists that puts travel service integrators as the leading and regards service processes as the main line. It combines passenger flow, information flow and capital flow as a whole.

### KEYWORDS

IT; Personalized needs of tourists; Tourism IT service; Concept model.

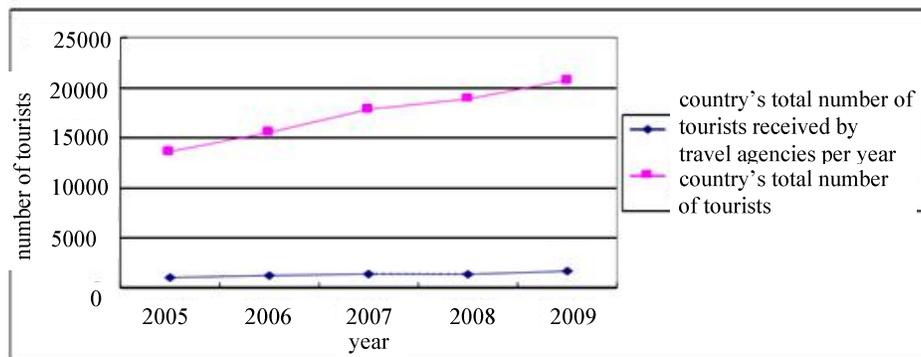


## PREFACE

With the gradual increase of FIT tour, all levels of governments and tourism authorities have begun to attach great importance to FIT market, and have taken a series of measures to facilitate DIY tourists. Many tourist attractions have successively launched DIY tour manual. Just like a tour escort. It can provide catering, accommodation, transportation, traveling, shopping, entertainment and other projects for foreign DIY tourists who would come to the local place. Quanzhou Overseas Chinese Tourism Transport Center was launched to provide a variety of choices for Quanzhou FIT tour. "Beidaihe digital tourism platform" in Shijiazhuang regards FIT and DIY tourists as service objects. It uses tourism service system with 360-degree panoramic video, establishes new supply chain concept model<sup>[1]</sup> of tourism service through methods such as getting on the internet by mobile phones and the "tourist information kiosks", and provides tourists with comprehensive, accurate and convenient tourism information services.

By contrast, traveling mode of traditional travel agencies is relatively ordinary. In addition, phenomena of frequent disputes between travelers and travel agencies, tour guides forcing tourists to do some shopping and even abusive incidents on tourists, all above things make tourists more cautious when choosing travel agencies. According to the data from 2005 to 2009 released by officials of the National Tourism Administration<sup>[2]</sup>, we get the Figure 1. Figure 1 shows the annual variation trend of country's total number of tourists and country's total number of tourists received by travel agencies. With the continuous improvement of people's living standards, the tourism industry has developed rapidly. However, the low level of information, backward management and weak industrial basis in the tourism industry cause the low level of competition of tourism enterprises. Thus, the tourist information service system is designed to provide tourists with functions of easily getting attractions information inquiry from travel information service system, booking travel agencies and developing tourist routes.

As for traveling mode of traditional travel agencies, its existing itineraries greatly limit the tour experience of tourists, and the scope of activities and independent choices are limited even more. But at the present stage, the weak basis, lower information level and backward management of the overall tourism industry led directly to the lower competitiveness of the tourism industry, which makes it difficult to meet the traveling needs of tourists. In allusion to the above-mentioned problems of travel service, using tourist information service system allows various tourism service to conduct more smoothly and to better coordinate relations between tourists and tourist sectors, thus to better improve service value of tourism. For tour without travel agencies, tourists can develop their own travel routes and choose dining, lodging, shopping and other locations freely. As a result, Figure 1 reveals the growth of individual needs of tourists to some extent.



**Figure 1 : The annual variation trend of country's total number of tourists and country's total number of tourists received by travel agencies**

### PERSONALIZED TRAVEL SERVICE SUPPLY CHAIN MODEL UNDER THE MODERN IT BACKGROUND

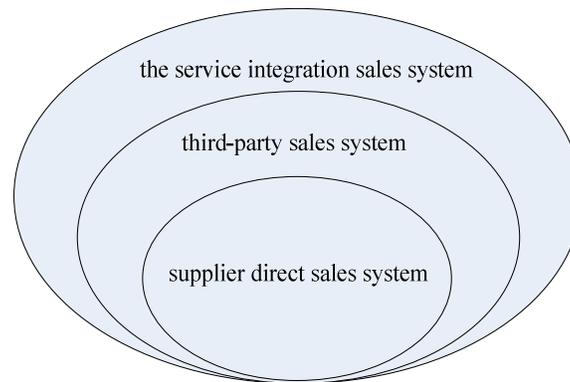
With the rapid economic development, people's living standards have improved significantly, thus the tourism industry has gained an unprecedented growth potential<sup>[3]</sup>. But at the present stage, the weak basis, lower information level and backward management of the overall tourism industry led directly to the lower competitiveness of the tourism industry, which makes it difficult to meet the traveling needs of tourists. In allusion to the above-mentioned problems of travel service, using tourist information service system allows various tourism service to conduct more smoothly and to better coordinate relations between tourists and tourist sectors, thus to better improve service value of tourism.

#### Online travel service resource system

It should be noted that, with the rising demand of tourists and correspondingly further expansion of the system, this study examines the current state of the tourism industry. As a result, a number of pervasive problems were found<sup>[4]</sup>, specific questions are as follows: 1) effective tourist information is difficult to be obtained in the traditional tourism market, narrow tourist information channels, higher cost of access to information and the uncertainty of information; 2) backward tourism information collection and management tools, the actual survey and measurement are mainly accomplished manually,

tourism resource information statistics, tourism photos production and tourism resource evaluation also should be accomplished manually; On the basis of electronic map platform, solutions proposed by the study can perfect the construction of tourist information service system, enable the system to effectively organize the tourism information. In this way, tourists can choose the information of interest through obtaining a variety of tourist information. Tourist information service system designed in this study should include tourists login management, travel routes management, query electronic maps, travel services supply, relevant contents of travel companies, system backstage maintenance and other functions<sup>[5]</sup>. Having established partnerships with worldwide hotels and airways groups, the third-party sales system publishes services for tourists to choose on their own platform with a favorable price.

Considering the current online travel service, it can be divided into three categories on the basis of the relations between sales system operators and service suppliers, as shown in Figure 2.



**Figure 2 : Online travel service system composition**

The following descriptions are made with respect to the catering and accommodation in the travel IT industry.

### **Catering**

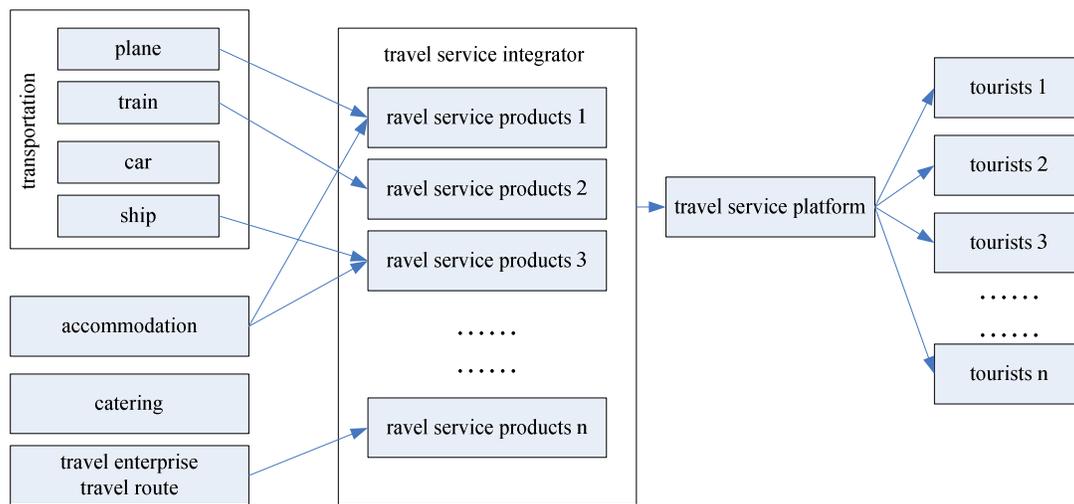
Catering is an indispensable factor in the travel process, and may even become the main purpose of tourism. The purpose of this travel information service system is to realize that tourists can check tourist attractions information online and complete travel agencies line arrangements at home. In summary, its goal can be refined into<sup>[6]</sup>: The tourist information service system would provide detailed information and one-stop travel information inquiry for tourists which allow them to fully grasp the information of travel attractions. By helping tourists book hotel rooms and clear itineraries, troubles caused by not familiar with the destination can be avoided, so that tourists would enjoy a pleasant trip. This mechanism can be used by tourism service websites to integrate catering services and tourism services.

### **Accommodation**

Accommodation is an important tourist service, from star hotels to family inns with service providers throughout the cities of all levels in the country. The non-functional requirements of tourism information service system include its security, reliability, portability, scalability and maintainability. Specific individual functions are described below: the security of the system: customers can access to the system through the registration assessment in the system, whereas customers can not get any service information in travel information service system without registration; the reliability of the system: customers could get the accurate travel information in the system only by registration legitimately; the portability and scalability of the system: the system's functions can be extended and would not affect the existing functions on the basis of original functions when new customers appear; the maintainability of the system: to ensure to solve the faults occurring in the system within 24 hours. Customers can access to the system through the registration assessment in the system, whereas customers can not get any service information in travel information service system without registration; the reliability of the system: customers could get the accurate travel information in the system only by registration legitimately; the portability and scalability of the system: the system's functions can be extended and would not affect the existing functions on the basis of original functions when new customers appear; the expenses of publicity and promotion have reached an unprecedented marketing effect.

### **Current service supply chain model of travel E-commerce websites**

If tourists do not choose package travel undertakers and travel agencies, then the tourism e-commerce would become the main method to cater for personalized needs, get information and even do tourism commodities trades. Due to the openness of the network, problems of network security system would occur when travel information published by enterprises and customers, so the system requires a high system security. Assessments are mainly from aspects of the security of tourism service system, network and data. Take a wide view of these travel e-commerce websites, their travel service supply chain models can be summarized as shown in the Figure 3:



**Figure 3 : Current service supply Chain model of travel e-commerce websites**

The current tourism e-commerce and tourism IT platform have largely solved the problem of tourism information inquiry, but there still exist some drawbacks:

(1). Due to the lack of cooperation between industries, information of various enterprises cannot be shared in the travel service platform. Tourism information service system administrator is responsible for maintenance and management of the tourism information service system. His main responsibilities are tourist hotel recommendation, tourist management, travel route modification, hotel and travel route reservations, tourist attractions recommendation and message management. The non-functional requirements of tourism information service system include its security, reliability, portability, scalability and maintainability. Specific individual functions are described below: the security of the system: customers can access to the system through the registration assessment in the system, whereas customers can not get any service information in travel information service system without registration; it blocks the information sharing channels between suppliers.

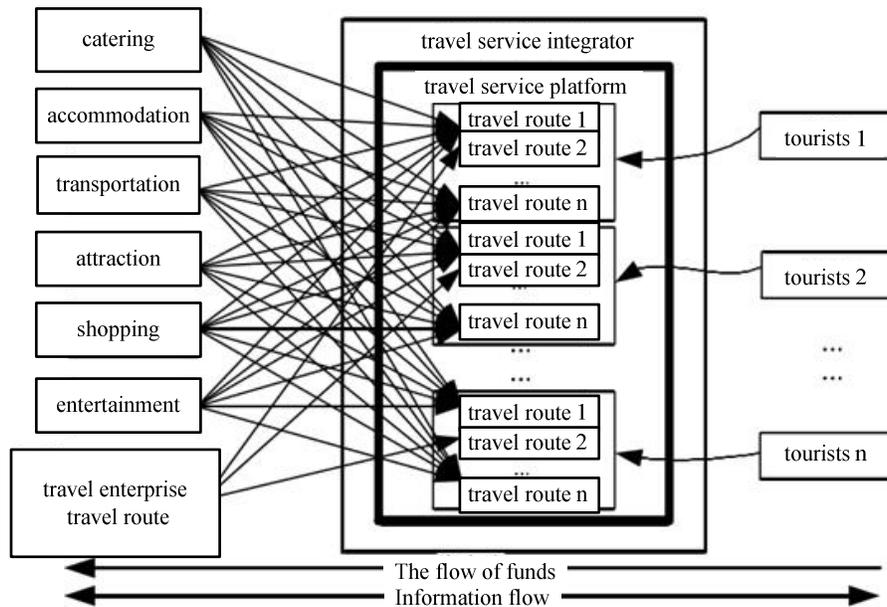
(2). All products are single synthetic products negotiated by travel service integrators and tourism service providers. The non-functional requirements of tourism information service system include its security, reliability, portability, scalability and maintainability<sup>[7]</sup>. Specific individual functions are described below: the security of the system: customers can access to the system through the registration assessment in the system, whereas customers can not get any service information in travel information service system without registration; the reliability of the system: customers could get the accurate travel information in the system only by registration legitimately; the portability and scalability of the system: the system's functions can be extended and would not affect the existing functions on the basis of original functions when new customers appear; the maintainability of the system: to ensure to solve the faults occurring in the system within 24 hours.

**Personalized travel service supply Chain model under the modern IT background**

This research fully analyzes the characteristics of tourism services, as well as the structural characteristics, elements and operation mechanism of tourism service supply chain under the modern information technology background. It also establishes a new concept model of tourism service supply chain. This model is based on personalized needs of tourists that puts travel service integrators as the leading and regards service processes as the main line. It combines passenger flow, information flow and capital flow as a whole. The model is shown as Figure 4:

**Features of the Model Are as Follows**

1. Puts travel service integrators as the leading: in this model, travel service integrators are put as the leading and the cooperation and communication between travel service providers should be strengthened as well. The non-functional requirements of tourism information service system include its security, reliability, portability, scalability and maintainability. Specific individual functions are described below: the security of the system: customers can access to the system through the registration assessment in the system, whereas customers can not get any service information in travel information service system without registration; the reliability of the system: customers could get the accurate travel information in the system only by registration legitimately; the portability and scalability of the system: the system's functions can be extended and would not affect the existing functions on the basis of original functions when new customers appear; the maintainability of the system: to ensure to solve the faults occurring in the system within 24 hours. Customers can access to the system through the registration assessment in the system, whereas customers can not get any service information in travel information service system without registration; the reliability of the system: customers could get the accurate travel information in the system only by registration legitimately; the portability and scalability of the system: the system's functions can be extended and would not affect the existing functions on the basis of original functions when new customers appear; the expenses of publicity and promotion have reached an unprecedented marketing effect.

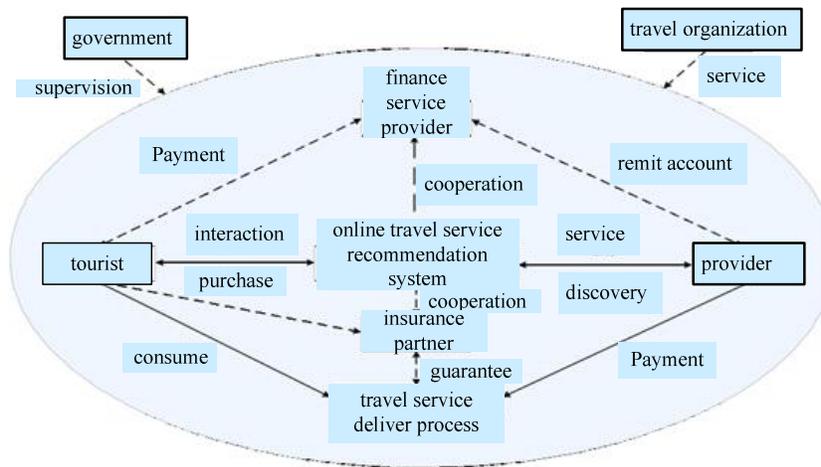


**Figure 4 : Personalized travel service supply Chain model under the modern IT background**

2. Put travel destination as the service composite connection: under the condition of information and technology, tourism information service system administrator is responsible for maintenance and management of the tourism information service system. His main responsibilities are tourist hotel recommendation, tourist management, travel route modification, hotel and travel route reservations, tourist attractions recommendation and message management. The non-functional requirements of tourism information service system include its security, reliability, portability, scalability and maintainability. Specific individual functions are described below: the security of the system: customers can access to the system through the registration assessment in the system.

**Supply Chain entity**

The entity objects in the personalized travel service supply chain model under the modern IT background can be divided into supplier entity and demander entity, such as relevant government institutes and organizations in the travel industry (as shown in the Figure 5). The actual survey and measurement are mainly accomplished manually, tourism resource information statistics, tourism photos production and tourism resource evaluation also should be accomplished manually; On the basis of electronic map platform, solutions proposed by the study can perfect the construction of tourist information service system, enable the system to effectively organize the tourism information. In this way, tourists can choose the information of interest through obtaining a variety of tourist information. Tourist information service system designed in this study should include tourists login management, travel routes management, query electronic maps, travel services supply, relevant contents of travel companies, system backstage maintenance and other functions.



Travel Service Chain Entity Composition

**Figure 5 : Travel service chain entity composition**

## Supplier entity

### (1). Service providers

Providers who provide travel services such as catering, accommodation, transportation, travel, shopping and entertainment can be both small-scaled travel service enterprises and large-scaled travel organizations. Travel industry has obtained unprecedented development potential<sup>[1]</sup>. But at the present stage, the weak basis, lower information level and backward management of the overall tourism industry led directly to the lower competitiveness of the tourism industry, which makes it difficult to meet the traveling needs of tourists. In allusion to the above-mentioned problems of travel service, using tourist information service system allows various tourism service to conduct more smoothly and to better coordinate relations between tourists and tourist sectors, thus to better improve service value of tourism.

### (2). Insurance

Recent years, the insurance business has entered in the travel industry and has become a part of tourism security guarantee system. This study examines the current state of the tourism industry. As a result, a number of pervasive problems were found<sup>[4]</sup>, specific questions are as follows: 1) effective tourist information is difficult to be obtained in the traditional tourism market, narrow tourist information channels, higher cost of access to information and the uncertainty of information; 2) backward tourism information collection and management tools, the actual survey and measurement are mainly accomplished manually, tourism resource information statistics, tourism photos production and tourism resource evaluation also should be accomplished manually; 3) with single content and form and lack of audio and video files, the online travel information is relatively drab.

## SUMMARY

This study regards quantities of website service resources as the objects at first. Due to the rapid development and continuous and continues to maturity of e-commerce, tourism service enterprises began to apply modern information technology to the tourism service. As a result, tourism e-commerce and tourism IT platforms have sprung up, which meet the personalized needs of tourists to some extent. Thanks to these networks online services, tourists can check catering, accommodation, transportation, travel, shopping, entertainment and other required information, order travel services and necessities in advance, and make full use of various resources to successfully achieve their travel plans at home. Because of China's IT industry is still in the stage of rapid development, so this kind of service model has some deficiencies. For instance, due to the defective inter-industry cooperation and coordination, enterprises cannot achieve tourism information sharing; tourism service products are not comprehensive enough and searches are not flexible; personalized development of tourists and tourism innovation are largely hindered.

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