ISSN : 0974 - 7435 Volume 10 Issue 14

2014

BioTechnology

An Indian Journal

FULL PAPER

BTAIJ, 10(14), 2014 [8132-8137]

The establishment of membership coordination system in the process of tourism service supply Chain operation

Yajun Fang

Inner MongoLia Radio&TV University, Huhehaote, 010011, (CHINA)

ABSTRACT

Higher comprehensiveness of travel service products has put forward higher requirement on the coordination of membership in tourism service supply chain operation. Considering the important position of tourists and tour shipping company in tourism service supply chain and the difficulty of relationship coordination, the study takes it as key point, using relevant theory and model to study the problems of relationship coordination. The results show that honesty problem between the travel agency and tourists can be solved by establishing and improving the methods of the related tourism industry association releasing relevant information. For the conflict and interest game between the travel agencies and airlines, we can achieve the optimal reservation strategy through adjusting the ticket price discount to make revenue maximization. As for the problem of travel service supply chain management, the comprehensive service system shall be built, aiming to achieve tourism service supply chain coordination. On the basis of mastering complete tourism service supply chain structure, and combing the tourism service supply chain elements, the management points of travel service supply chain are discussed. And profit model and the best data selection model are applied to discuss and analyze the supply chain operation better realizing member link relations coordination, for the purpose of concluding the constructive measurements.

KEYWORDS

Hospitality industry; Tourism service system; Supply Chain, Membership.

INTRODUCTION

The rapid development of the modern market economy has injected new vitality to the tourism, and the satisfaction in material life has brought traveling out ideas. According to the survey of some authority, in recent years the tourists at home and abroad are showing a rising trend that is a good proof. Tourism has become a vibrant sunrise industry with high potential to develop. From the perspective of the current world economic development situation, the potential of tourism service industry is beyond doubt, especially in modern commercial market with various natural resources increasingly scarce, and the intensified competition in other business, the rise of tourism industry will inevitably attracted extensive attention from all walks of life.

So far, many countries give priority to develop tourism industry with various supporting policies, so vigorously develop the domestic tourism market became an important work for the governments of various countries.

The comprehensiveness, cooperativeness and coordination of the tourism have determined that the tourism products can not only rely on a single tourism enterprise. And the production process of integrity travel product is actually the process of tourism service including the collaborating among many parts such as tourist, travel agency, transport enterprises and attractions. In short, the travel agencies provide service for the tourists, and the transport enterprises and attractions provide its service through tourism service enterprise platform, and tourists enjoy the service and acquire spiritual satisfaction at the cost of money. So the key point of tourism operation lies in the coordination relationship of the members in service system. Only the harmonious collaboration of the members can guarantee service process, realizing win-win between the members.

STRUCTURE ANALYSIS OF THE SUPPLY CHAIN IN TOURISM SERVICE SYSTEM

As the core of modern tourism service system and the platform of members collaborating and communicating, the ability and execution of the travel agency affects the operation effect of the makeshift service system to a large extent. The travel agency integrates commerce elements related to tourism including the transport department, sightseeing spots and etc, providing service for the tourists through its service. And at the same time satisfy tourists through their service, so as to realize the normal operation of travel service system. Therefore, the tourism service supply chain is in essence a reliable resource integration platform, with transportation department, sightseeing spots as its output window of the platform. The tourists enjoy services through this platform, thus the integration and distribution of tourism resources will be completed. The process of travel service is actually a process of value maximization, including members such as diet, accommodation, traffic, shopping, entertainment, and etc. According to their respective resource advantages and division of labor, these elements participate in the process of value creation, and contributing to the completion of tourism service system.

The features of the supply chain in tourism service system

Compared with other logistics supply chain, one typical characteristic of tourism service supply chain is that it includes both passenger flow centre on tourists and service flow involving scenic spots, and the lodge hotel and transport enterprise. The whole flow including two processes such as tourists-scenic spots-hotel-transport enterprise, and the process of travel agency-tourists-transport enterprises-hotel-scenic spots. During the execution of process in the two directions, the tourism service products is completed and be used, and finally forming the whole complete travel service system. The complexity, dualism and high risk of the tourism service supply have determined that the members in the supply chain must establish a reliable trust relationship, and a tourism service supply chain flow can be better achieved by mutual cooperation and mutual understanding to realize the win-win situation. It is difficult to improve the integrated coordination ability of the whole system because of the complexity principal-agent relationship of the members. The chanciness and arbitrariness of tourists travel has decided that it is difficult for tourism service to make a reliable standard service process and performance evaluation system, and the service quality is also difficult to quantize and evaluate.

The structure of the tourism service system

Another characteristic of tourism service distinguishing it from other products is that its products cover basic necessities of people. So the tourism service agency must product its production from tourism material and tourism service to satisfy the expectation of tourists in material and spiritual, ensuring the production quality meet the criteria of tourists. From the perspective of business, effective collaboration of the membership in the travel service system is a unified standard to measure the strength of a travel service company, the introduction of tourism service supply chain concept has provided reliable theoretical support and ideology for the establishment and realization of this standard. According to the common perception of the industry, the tourism service supply chain actually analyzes the relationship of each member related to tourism service from the angle of the micro, and coordinating the relationship in service supply chain to reduce the service cost and enhance service quality

The broadly and strict definition of the tourism service supply chain is not perfect unified, because of the complexity of the travel service system. But the elements are as follows: tourism products supplier which provide the basic necessities, tourism wholesaler, tourism retailer, tourists and travel agency. See the structure diagram in Figure 1.

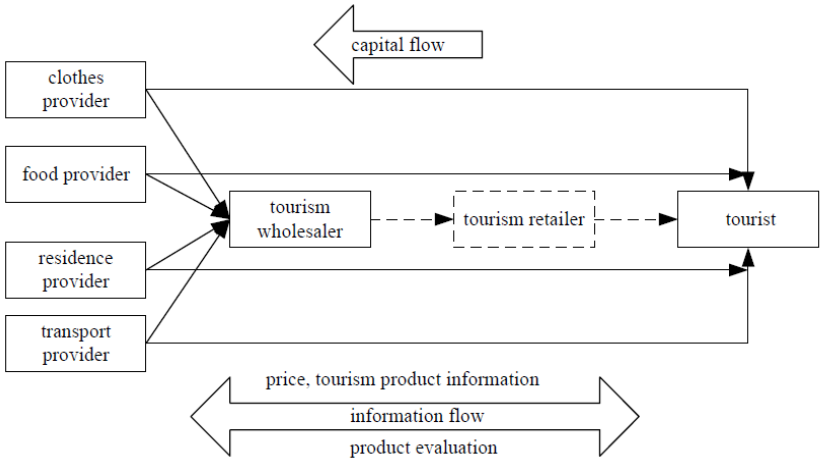

Figure 1: The structure diagram of tourism supply chain

The Figure 1 shows that the tourism service supply chain involving the basic needs of tourists, and the flow direction can start from the provider pass through tourism wholesaler, tour retailer to tourists, and it also can start from provider directly into tourists. What's more, there are capital flow and information flow in the process of tourism supply chain operation.

From deeply analysis of the structure diagram, we can conclude that a complete tourism service supply chain should include three parts: internal supply chain such as sales department- front office department- housekeeping department; and external chain such as hotel-travel agency- sightseeing spots; and supply chain control center.

From the above, we can see that the main characteristic of tourism service distinguishing it from other products is passenger flow. That is to say, the passenger flow is the main object of studying the member cooperative relationship. The chanciness and arbitrariness of tourists travel has decided the difficulty of analyzing and studying the tourism service supply chain. And the specific difficulties are as follows:

Firstly, the study of the tourism service supply chain is complex. The distribution of the tourism has the features of aggregation and randomization, and the natural sights and cultural sights are the main tour resources, however the short-term effect of tourist number has increased the difficulty of data research of tourism service supply chain. The research and analysis is just like air without the data support.

Secondly, the study of the tourism service supply chain is full of risk. Although the members in different tourist route of the tourism service supply chain members are similar, the relationship and proportion of tourists material and spiritual needs is not the same. This has brought great instability for the tourism service supply chain operation, and the high influences of various unexpected factors increase the risk of the tourism service supply chain operation.

Thirdly, the study of the tourism service supply chain is full of duality. Among which the role of travel agency has transferred most. In this part, the travel agency can act as the client or as the agent.

Fourthly, the study of the tourism service supply chain is full of extensive. Suppliers in tourism service will involve various fields including the hotel, catering, transport, entertainment and other industries, so it is different from suppliers in other industry. The difference of operation pattern in different industries has also increased regulation difficult in the tourism service supply chain.

THE ESTABLISHMENT OF MEMBERSHIP COORDINATION MECHANISM IN THE OPERATIONAL PROCESS OF TOURISM SERVICE SUPPLY CHAIN

According to the structure and characteristics of the tourism service supply chain, the study on the establishment of membership coordination mechanism in the operational process of tourism service supply chain is an important way to resolve the problem of membership difficult to coordinate and control in the tourism service system.

The coordination of relationship between travel agency and tourists in the tourism service supply chain

It is inevitable that there are contradiction between travel agency and tourists, because of the trading relationship between the travel agency and tourists. On the one hand, tourists wish that they can enjoy better service. And on the other hand, the travel agencies reduce their operating costs to improve their management benefit. Therefore, there will be some problems of tourism service quality dispute or conflict. These uncivilized phenomena have brought great impact on the stable and rapid development of the tourism service industry. Some travel agencies promote products or service to tourists by some dishonest means for short-term interests, causing some losses to the tourists and bad effect on the operation of tourism service industry.

In this paper, the relationship between the travel agency and the tourists in the tourism service supply chain is taken as key coordination problem to explore. In order to better explain the interest relationship between the travel agency and the tourists, profit model is established to describe.

(a)The establishment of the profit model

In this model, A stands for travel agency and B stands for tourists. At first, the tourist has two choices. And the letter Y is used to represent the selection of travel agency; and the letter N is used to represent the opposite. However the travel agency also has two choices, one is do things according to the regulation, and we also use the letter Y to represent it. And we also use the letter N to represent the opposite situation. In this way, the profit model between the travel agency and tourists is establishment. See Figure 2 as below.

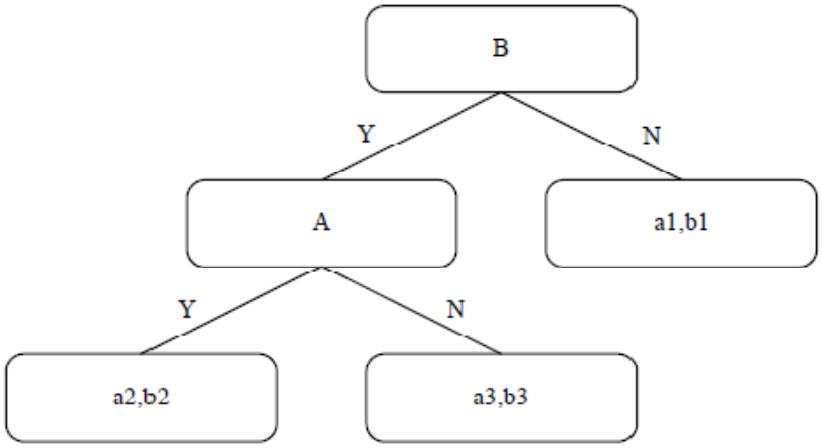

Figure 2: Profit model

In Figure 2, an, bn represents the profits of tourists and travel agency respectively in different state, and setting a2>a1, a2>a3. Assuming the interest rate is x, the discount coefficient f(x)=11+x can be calculated. And then we assume that the probability of tourists choosing the same travel agency is p, and then we conclude that the rate of tourist choosing this travel agency is 0. The probability of tourists not choosing the same travel agency is 1.

(b)The solving of coordination problem between the two parts

It is well known that people will instinctively choose the minimum cost when facing different choices. In the tourism industry, when various travel agencies with different price and quality of service can be chosen, people will choose a lower price travel agency without doing things in accordance with provisions. That's the main reason why the benefits of the travel agency are badly, whose service price is higher but to do things in accordance with provision. And in fact, the tourists will find their choices are wrong when they begin to accept the service. Resulting in the right travel agency struggle to survive, and the tourists are unable to enjoy the deserved service, these are all because of the information asymmetry. The so called asymmetric information is a kind of phenomenon referring to people on both sides of the transaction because of the exclusive trading information, leading the cost of one side of the transaction increasing and that of the other side reducing with the quality of the work lower down. So we suggest that the information of the tourism market is open to all. Fairly show their tourism projects, service content and the corresponding price, for tourists to choose and eliminate the adverse effects of asymmetric information.

The coordination of relationship between the travel agency and tourism transportation node member in the tourism service supply chain

Tourism service supply chain transportation node is equivalent to the joints of the whole system, mainly responsible for location transfer of the tourists and the consignment of baggage and other functions. The present tourism transportation node including railway transport, road transport, maritime transport and air transport. Each transport node has its own characteristic. In order to describe them at length, we take air transport enterprise as an example in this paper. There are common interests and contradiction of interests between travel agency and air transport. The air transport improves the amount of ticket through travel agency. While the travel agency keep good relationship with air transport in order to ensure plenty of supporters. What's more, the discount rate of a ticket has great effect on the relationship between them. There are both interest conflicts and common interest. In order to study easily, we assume that only one airline and a travel agency in the region, the research environment within a flight.

(a) The establishment of the data selection model

Various prices of tickets trading is implemented between airline and travel agency to ensure their revenue, and here we assume that the market price of the ticket is Y; and supposing the ticket price acquired by travel agency equals the market

price, namely, the ticket price acquired by travel agency is Y; If there are many tourists in travel agency, the airline will provide certain preferential according to the number of unified purchase tickets in travel agency. And the preferential price is set at P=wy (w represents for discount rate, 0<w<1） ; but the discount ticket can not be returned or changed or endorsed.

When the number of air tickets is less than the number of tourists, and the tourists will have some losses due to unable to go by plane. At the same time, this loss will be transferred to travel agency. The lack of ticket loss rate is set at t, when the number of air tickets is less than the number of tourists; but when the number of tourists is less than the number of seats provided by airline. The airlines will have some losses, too. And we set the seat loss rate at a; Assuming the market demands for air tickets is H, except that of the travel agency. The quantity demand for air tickets of travel agency is G, and both of them are continuous random variable. The distribution function are respectively H(X)、G(X), probability density are respectively h(x), g(x).

(b) The analysis of relationship coordination problem

The optimal amount of tickets booking and the optimal amount of ticket selling can be calculated through the function and probability distribution of the model. However, the difference of these two quantities is the key point to solve the coordination between them. According to the data model, we decide the optimal amount of tickets booking and the optimal amount of ticket selling, while at the same time the membership in the tourism service supply chain between travel agency and airlines is analyzed.

Assuming the booking ticket number of travel agency is N, and due to uncertainty of the tourists will, the actual demand of travel agency is n, if n<=N, the rest of N-n tickets can't be returned according to the requirements of assumption. So the losses are afforded by travel agency. If n>N, the profits of the travel agency will lower down because of lacking tickets and loss of customers, the lack of ticket loss rate is set at t. The earnings of the travel agency can be calculated according to the above data.

$$\eta = \int_0^N [(y-p)x - p(N-x)]h(x)dx + \int_N^{+\infty} [(y-p)N - t(x-N)]h(x)dx \tag{1}$$

$$\frac{d\eta(N)}{dN} = -P\int_0^n h(x)dx + (y-p)\int_0^N h(x)dx + t\int_N^{+\infty} h(x)dx = -p\int_0^N h(x)dx + (y-p+t)\int_N^{+\infty} h(x)dx \tag{2}$$

$$\int_0^N h(x)dx + \int_N^{+\infty} h(x)dx = 1, \frac{d\eta(N)}{dN} = 0 \tag{3}$$

$$\int_0^N h(x)dx = H(N) = \frac{y-p+t}{y+t} \tag{4}$$

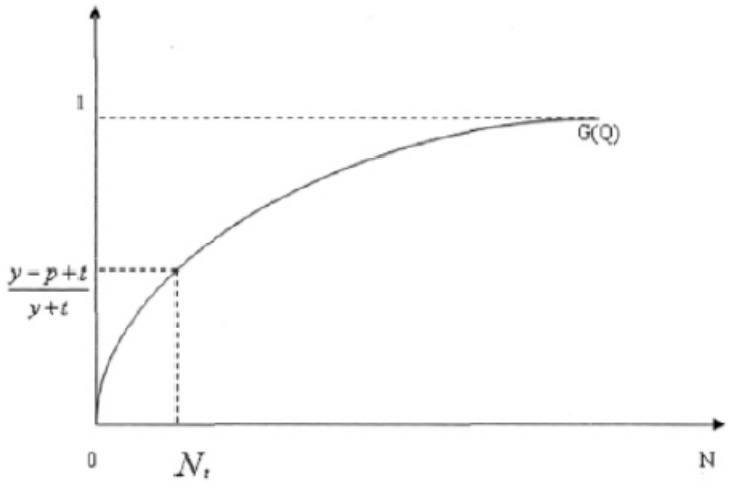

Figure 3 : The functional image of optimal ticket booking amount

In the formula above, if the optimal ticket booking amount N_t Nt satisfy the actual needs, the actual demand probability shall not more than N, the only optimal ticket booking amount can be obtained through inverse function of distribution function, the formula is $N_t = H\_1(y - p + t, y + t)$. See the functional image in Figure 3.

Assuming the total air tickets of airlines is t_a ta, and the number of tickets can be sold to the travel agency is N. the number of tickets for other business is s, if $s <= t_a - N$, and the plane is full, the loss price is set at y, if $s > ta - N$, the loss caused by vacant seat will happened. The earnings of the airline can be calculated according to the above data. The optimal amount of ticket selling $N_z = t_a - G - 1(y + a - W2y + a)$ can be calculated in the same method as that of the optimal amount of tickets booking. So it can conclude that optimal amount of tickets booking is proportional to N, and inversely proportional to a.

(c) The solving of relationship coordination problem

From the discussion above we can conclude that in order to make the relationship between the travel agency and airline more harmonious, the optimal amount of tickets booking as well as tickets selling can be adjusted through ticket discount. The specific adjustment method is as follows: supposing $N_t<N_z$, trading volume $N=N_t$, the number of ticket booking in travel agency will be increased as well as the earnings. The optimal amount of tickets booking calculated in this way can realize the economic benefit maximization of the travel agency and airlines. The interest conflict situation also can be solved, realizing relationship coordination.

The railway transportation or road transportation are the same as airlines, ticket price has important influence on relationship coordination between travel agencies and airlines in travel services supply chain. The optimal amount of tickets booking and selling calculated through controlling the discount rate of the tickets is the key point to realize common interest, ensuring the membership coordination between the travel agency and airlines.

CONCLUSION

In this paper, through the exploration and analysis of membership coordination mechanism in the process of tourism service supply chain operation, a reasonable and standardized tourism service supply chain model is established. From the perspective of the structure characteristics and the relationship, this paper puts forward specific problem that leading to supply chain irreconcilable operation, profit model and best data selection model are used to propose concrete methods to solve the related problem. The relationship including travel agency with tourists, sightseeing spots, and transportation node, tourists and sightseeing, tourists and hotel and etc is explored, promoting the establishment of membership coordination mechanism in the process of tourism service supply chain operation.

REFERENCES

[1] Cheng Jiangang; Study on Service Supply Chain and its Architecture [J], Logistics technology, **8**, 15-16 **(2012)**.

[2] Pan Xiaodong, Yan Zhanghua, Teng Chunxian; Study on trust equilibrium of tourism supply chain, Logistics technology, **4**, 23-25 **(2007)**.

[3] Chen Lai; Promoting manufacturing core competence by enforcing supply chain logistic management[A], 2004 "The development of Anhui manufacturing industry" essays of Dr BBS on science and technology [C] **(2004)**.

[4] Tian Genping, Li Jin; Research on logistics rationalization of the retailer enterprise in supply chain management environment [J], Logistics technology, **7**, 36-39 **(2011)**.

[5] Gu Jin; Management mode translation brought by SCM—from function to process, Logistics technology, **11**, 48-53 **(2005)**.

[6] Mi Zhiqiang; Supply chain optimization strategy based on technology [J], Logistics engineering and management, **4**, 53-59 **(2009)**.

[7] Wu Chunshang, Deng Wenbo, Liuyan; Study of enterprise collaboration problems on tourism service system [J], Market forum, **5**, 58-59 **(2010)**.

[8] Yang Shu, Du Shaofu, Liang, Dong Junfeng; Optimal quality decision in tourism supply chain for package holidays [J], Journal of management and science, **3**, 48-56 **(2009)**.

[9] Chen Ying, Zhang Xizhou; Revelation of service supply chain on tourist service [J], Logistics technology, **8**, 56-59 **(2011)**.

[10] Huang Xiaojun, Gan Xiaoqing; Preliminary Probe into service supply chain management of tourism [J], Commericial Age, **25**, 95-96 **(2009)**.