Does Information Technology Have Effect on Tourism Industry Performance?

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Abstract. The rapid development of information technology as well as its wide application has produced a widespread impact on social and economic life. No industry can avoid participating in the process of “revolution”, including tourism industry. Changes in the travel distribution system brought by information technology are the hot research fields. Substantial researches are concerned with the impact of e-Tourism and the changes of business model. However, how information technology can be used to improve the performance of tourism enterprises has not been concerned enough. Data-sharing model which is now widely used in large International Conglomerate is the product of the business expansion and information technology. This paper tries to find the tourism economy which has become to an important part of our national economy with the application of information technology.

Introduction

Economic performance is the performance and efficiency of the general term, on the concept of performance, different people have different understanding. Technological progress and tourism have been going hand in hand for years (Poon, 1993; Sheldon, 1997; Dimitrios Buhalisa, Rob Law, 2007), and the relationship between them is becoming closer. “No player in the tourism industry will be untouched by information technology” (Poon, 1993). Numerous studies have concluded that the emergence of information technology shows a great impact on tourism enterprises, on the structure of the tourism industry and on the tourist demands as well, which has threatened the traditional tourism enterprises but brought new opportunities. Changes in the travel distribution system brought by information technology are the hot research fields. Substantial researches are concerned with the impact of e-Tourism and the changes of business model. However, how information technology can be used to improve the performance of tourism enterprises has not been concerned enough. Data-sharing model which is now widely used in large International Conglomerate is the product of the business expansion and information technology. This model improves the business performance with the results of cost reduction, market expansion, higher service quality etc. Referring to the core idea of data-sharing model, this paper extends the model incorporating with the specialty of the tourism industry trying to develop a model for tourism enterprise to improve performance in big data age. However, in terms of the overall development of China's tourism industry, China's tourism industry has a lot of shortcomings. Only by combining theory with practice, the objective evaluation of the economic performance of China's tourism industry can promote the performance when developed.
Literature Reviews

As the core competitiveness of the tourism melt in the DNA of tourism, tourism and big data should be Harmony Aioi, “Travel + Internet”, “Travel + big data”, not simple for tourists, but to the internet philosophy (tourism enterprises, government) the concept of data as some tourist characteristics. Tourism is not a lack of a large data partners, is the lack of scientific analysis, the overall analysis, the concept and means of scientific operations. I hope that the big data, the Internet can change the traditional tourism DNA, to meet the new era of the new era of ability. Dimitrios Buhalis and Maria Cristina Licata (2002) predicted the development trend of the eTourism, on the basis of the development of information technology.[4]. Compared with the traditional enterprises, eTourism provide more added value features, content, availability information and booking functionality, so that traditional enterprises need changes for survival in an intensely competitive market.

Hojeghanand Esfangareh (2011) proved the digital economy’s effect on tourism industry through Internet and Web technologies. The application of information technology and telecommunications is increasingly crucial for tourism. In recent years, tourism electronic commerce is developing rapidly. All technologies, web services and applications used in tourism industry aim at facilitating the operations of organizations, helping customers to get the ideal product and service, evaluating the process and stimulating and attracting more demands (Ali Sukru Cetinkaya, 2010). With the continuous growth of population who regularly surf on the Internet, the World Wide Web (WWW) has become the indispensable channel for people to search for tourism information (Buhalis, Law, 2007). As the web becomes an increasingly popular information source, tourism destination websites can play a critical role in destination choice. Unai Bastida and Huan (2012) estimated the tourism websites’ information quality of the four global destination brands, that is, Beijing, Hong Kong, Shanghai and Taipei. Such analysis is based on websites’ quality and its usefulness.

Nowadays, tourism enterprises have been unable to survive without information technology in China. S. Zengfantao (2002) claimed that application of data mining technology in tourism marketing, would enhance the return on investment (ROI) of management information system[9]. Wanglu (2004) noted that cyberspace technology could provide technology platform for virtual tourism planning, which is supported by information superhighway, GIS, remote sensing technology and virtual reality technology. In fact, the application of information technology is starting from the management information system and after years of developing, it has achieved many great results. But it is not limited to this, how to use information technology to improve business performance will become the focus of scholars and entrepreneurs. Chenet al. (2001) shows that when firms are symmetric and information is perfectly accurate, no data sharing takes place. Liu and Serfes (2006) got the similar answer. They suggest information sharing is profitable only if the firms are sufficiently asymmetric in their customer bases. In contrast, Jentzsch, Sapi and Suleymanova (2013) conclude that the sharing of customer data can be profitable even though the firm is symmetric and the analysis reveals that the incentives to share data on customer flexibility are stronger when consumers are relatively homogenous along this dimension. Scenic spots can build technical support system with data-sharing system, including providing cloud management platform, micro channel independent ticket, intelligent two-dimensional code gates ticket, customer service system, intelligent voice navigation, LBS navigation, 720 degrees full roaming experience, intelligent WiFi coverage, scenic crowd monitoring and early warning, micro channel public, the third party marketing system, such as a full range services for the area.
Information Technology for Tourists

According to the 2014 China Tourism Statistical Bulletin, Chinese inbound tourist arrivals 12849.83 million in 2014. Fortunately, advanced in information technology has this problem resolved. After establishing a unified data exchange standard in tourism information, effective information can be exchanged between tourism service providers. The unified data exchange standard is achieved through XML technology. Nowadays, data-sharing is supported by information technology, and the performance of tourism service providers is needed to be improved urgently (Figure 1).

![Figure 1. The general construction of data-sharing.](image)

Undoubtedly, internal management costs and transaction costs will be reduced if a proper way can be found to make fully use of data-sharing. With the cost advantage enterprises would like to expand production earning more profits, and the scale effect will in turn reduces cost further. In conclusion, taking advantage of data-sharing would enter a virtuous cycle.

Information Technology and Tourism Enterprises

The difficulty to obtain comprehensive information on destinations created chances for the tourism intermediaries. Tourists mainly rely on travel intermediariesto obtain the information of tourism products before. While, with the advanced in information technology, information sources are more diverse than ever, which have an impact on the tourism supply chain. At present, the definition of tourism supply chain fails to reach an agreement. Here, tourism supply chain is defined as a network of tourism organizations engaged in different activities ranging from the supply of different components of tourism products/services such as flights and accommodation to the distribution and marketing of the final tourism product at a specific tourism destination, and involves a wide range of participants in both the private and public sectors (Xinyan Zhang, Haiyan Song, George Q. Huang, 2007). Tourists always retrieve information by internal or external search, Beatty and Smith (1987) claimed that people usually attempt to search for information in their memory first and, if an internal information source does not work, they then go out and search for relevant information. Apart from travel agents, family members and friends, tourist information sources have been found to be more
diverse than ever (Rompf, DiPietro, & Ricci, 2005). It indicates that tourism enterprises, especially travel intermediaries have changed dramatically due to information technology. For tourism businesses, the Internet offers the potential to make information and booking facilities available to a great number of tourists at relatively low costs. It also provides a bridge for communication among tourism suppliers, intermediaries, as well as end-consumers (Hojeghan & Esfangareh, 2011).

**Changes of Business Model**

Tourism e-commerce is the cutting edge software that is based on network technology. E-commerce has not only changed the way business was conducted but as a result it also tremendously improved profits of organizations. E-commerce provides rich information for helping tourists to find the ideal products. Apparently, shopping online is at lower cost compared to shopping in the store. Nevertheless, the existing travel websites is not capable to meet the personalized needs due to the limited information and products. In another word, tourism e-commerce has to be updated with information technology in order to be more competitive. eTourism is recommended to be synchronized with the demand simultaneously with data sharing and therefore, more potential tourists could be attracted. Furthermore, by analyzing the data feedback achieved from existing software would be important information on future prediction. Nowadays, tourists hope that the related products can be more precise so that they can enjoy the holidays better. Explain in other words, cooperation between the tourism service providers should be gradually close, and the integration of industrial chain is on the way. Tourism enterprises began to provide diversified services. Apparently, the tourism enterprises will go to collectivization in the future. In the past, hotels, scenic spots and tourism intermediaries are cooperating as independent corporates, and they would be more likely to work together as a union group. Hence, business size would be increased, operating cost would be reduced and the efficiency of management and decision-making would be improved as a benefit.

**Implications**

Massive funds need to be invested in tourism products innovation, which is unrealistic for smaller tourism enterprises. Tourism business has complicated and extensive industry chain facing all kinds of customers and suppliers, and it has to deal with more data than other businesses. Data sharing is very important in the tourism companies, small and medium tourism enterprises will be dependent on large-scale tourism enterprises, or become partners with other companies to manage the data otherwise it will be weed out this industry.

![Figure 2. Short-range, long-range market of data-sharing.](image)
Data-sharing Center Model for Tourism Enterprises

Although “big data” as a sexy hot words, has fire in a year or two, but discussion of the people most mere not fantasy. And big data in the tourism industry, but also just stay in the concept of paper. Data is becoming a key factor for enterprises to enhance their competitiveness. Brown, Chui, and Manyika (2011) illustrate that companies that use data to support decision making have higher returns on equity than those that do not. The tourism sector is especially data hungry, for having the right information at the right time provides businesses with knowledge about customers, buying behavior, and market trends (Cooper, 2005) that can help developers, marketers and operators make the right investment and product decisions (Carmen Lam, Bob McKercher, 2013).

Data-sharing Model

The data-sharing model consisting of internal and external ones may contribute to promoting tourism business performance. In addition to promotional content which is weak, the deeper reason is that when the user is not possible to travel demand. When there is a demand for users, the hotel may not push. In the final analysis, to determine when the user needs and interests, the hotel is powerless. Big data entry, the main solution is the problem. Internal data sharing is to share data between the corporation divisions in different regions. A data center is established to receive data from branches, then feedback after the integration of all data. Therefore, branches can use valid information for developing new products or new technology, in the purpose of expanding markets and improving corporate performance.

Data-sharing Model and Tourism Enterprises Performance

By 2015, China tourism industry of domestic tourism trips are 41 million people, China’s tourism industry has become the second largest nation in the world, especially in the last ten years, tourism has from food and clothing to fill a vacancy become power of the national economy can not be replaced. In the country, there are more than 1 Stars Hotel, a year to receive visitors to break through 1 billion, a great relief to the employment pressure. The development of tourism big data industry has been the focus of tourism construction work. Finally, sharing customer data is conducive to innovation products. With fierce competition in the tourism market, enterprises need innovative tourism products to meet potential tourists’ personalized needs. In turn, it will expand market share and remain competitive.

Figure 3. The function mechanism of data-sharing.
Data is becoming the core competitiveness of enterprise, and the advantages of data-sharing are becoming clearer. Therefore, in order to gain a foothold in the huge potential of the domestic tourism market, tourism enterprises should make use of data-sharing. Especially in tourism, only when tourism service providers cooperate together, can they provide a memorable travel experience for tourists. For this reason, a single enterprise provides limited service, which is unable to collect comprehensive data. While limited data cannot accurately predict consumer trend, so enterprises could do nothing but share data.

Conclusion

This paper is only an attempt to bring together the information technology and the specialty of the tourism industry trying to find a feasible way to improve the performance for tourism enterprises. The tourism industry is an urgent need for a thorough way to improve efficiency. So tourism and big data fusion is not only the situation of the forced, but also the industry needs. Big data reshape the pattern of tourism industry. Future development depends more on the concept of the update. We have always stressed that the supply side of structural reform, is to hope that our industry is healthier development. The cultivation of industrial demand, only rely on the traditional experience to play do not turn, through scientific and comprehensive analysis of the judge to do. As the core competitiveness of the tourism melt in the DNA of tourism, tourism and big data should be Harmony Aoi, “Travel + Internet”, “Travel + big data”, not simple for you and me, but to the Internet philosophy, the concept of data as some tourist characteristics. Tourism is not a lack of a large data partners, is the lack of scientific analysis, the overall analysis, the concept and means of scientific operations.

References


