

A Theoretic Discussion of Tourism E-commerce

Si-qing Liu

Strategic Planning College, Chongqing Technology and Business University
5 kilometer, Chongqing Nan'an District, Chongqing, P.R.China, 400067
086-13637826251
lsqbrian@ctbu.edu.cn

ABSTRACT

This paper presents the model of e-market structure and process analysis of tourism e-commerce. First the tourism e-commerce status quo is given clearly; secondly e-commerce and its classification, especially B2B2C show themselves; thirdly, based on the above, the paper focuses on the analysis of tourism e-commerce model, e-market structure and process. Using the four-quadrant method, the model reveals why tourism e-commerce is reaching its prime compared with other business, and that tourism e-commerce informationizes its value chain, resulting in numerous value-generating strategies such as value extraction, value capture, value addition and value creation; The tourism e-market structure, just a B2B2C application, is actually a tourist information network linking all market participants and reflecting the economic relationships between them; tourism e-commerce process is only the process of suppliers plus tourist life cycle, deeply leading to distributed B2B2C application.

Categories and Subject Descriptors

J.1 [Computer Applications]: Administrative Data Processing – Business; D.2.7 [Software Engineering]: Distribution, Maintenance, and Enhancement---portability; H.4.2 [Information Systems Applications]: Types of Systems---decision support

General Terms

Economics, Performance, Theory.

Keywords

B2B2C; E-commerce; Tourism; Tourism e-commerce

1. INTRODUCTION

“Has the Internet Reached Puberty? Foresights for 2004 and Beyond”[1], as the theme of the Fifth Annual E-Tourism Summit, is very meaningful and far-reaching. For a variety of reasons that include the after-effects of 9/11, the war in Iraq and SARS, and fresh tragic tsunami, business and stock market expectations have not been fulfilled, e-commerce seems to be resting, or pass its prime, and tourism is sure to be affected a little. However, online transactions in the travel and tourism industry are continuously increasing despite tough economic problems in this arena and fewer travelers overall[2]. This industry is the leading application in the B2B2C (business-to-

business-to-consumer) arena. Whereas other industries are displaying a stronger hold to traditional processes, the tourism industry is witnessing an acceptance of e-commerce to the extent that the entire industry structure is changing. The Web is used not only for information gathering, but also for ordering services. A new type of user is emerging, one who acts as his or her own travel agent and builds a personalized travel package.

According to the Organization for Economic Cooperation and Development, tourism is one of the largest and most dynamic industries in OECD economies as well as in some developing countries and is expected to continue to grow at a rapid pace in the coming years [3]. In 2003 more than 64 million Americans—30% of the U.S. adult population—used the Internet to look for information about destinations or to check prices and schedules. And two thirds of them—42 million—booked travel via the Internet, an 8% gain over 2002, according to the Travel Industry Association of America (www.tia.org). In the same period travel sale of European online increased by 44%, reaching over \$14 billions, according to the Regional and Tourism Research (www.crt.dk) by the Danish Center. A survey predicts that by 2007, 30% of all B2C transactions in the German-speaking European countries will be enacted via the Internet[4], while other market research institutes have made predictions ranging on either side of this figure. In all, all statistics for the travel domain point upward.

2. E-COMMERCE

Electronic Commerce (EC) is where business transactions take place via telecommunications networks, especially the Internet. Electronic commerce describes the process of buying and selling or exchanging of products, services, and information via computer networks including the Internet[5]. The Internet has emerged as a major, perhaps eventually the major, worldwide distribution channel for goods, services, managerial and professional jobs. And EC is profoundly changing economics, markets and industry structure, products and services and their flow, consumer segmentation, consumer values, consumer behavior, jobs, and labor markets; the impact may be even greater on societies and politics, and on the way we see the world and ourselves in it.

Travel and tourism are illustrating how e-commerce can change the structure of an industry—and in the process create new business opportunities, especially in the B2B2C arena.

The first time B2B2C appears in the Dow Jones Interactive database is in a September 27, 1999 story in Computergram International about OrderTrust [6]. Before getting ready for B2B2C, something must be clear: First there is B2B, short for business-to-business Internet companies like Ariba and Commerce One; then come B2C, applied retroactively to business-to-consumer companies like Amazon.com, Yahoo or America Online; the next logical step was C2C, a nickname for consumer-to-consumer companies like eBay. Generically,

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B2B2C, shot for business-to-business-to-consumer, describes companies that sell products or services to companies that in turn sell to consumers, all via the Internet. In another word, it describes transactions in which a business sells a service or product to a consumer using another business as an intermediary. Whatever B2B2C means is in progress with the times, and pertaining to e-commerce, while B2B,B2C and C2C are all the classifications of e-commerce.

"Another general message to the believers was: B2B (business-to-business marketing) and B2C (business to consumer) are so five minutes ago; from now on it's all about B2B2C."—Jessica Seigel, "While Nasdaq Burns," The New York Times, April 23, 2000[7]. B2B2C e-commerce has been becoming the matched business model courted by many industries, especially the tourism.

3. TOURISM E-COMMERCE

Tourism e-commerce refers to an Internet based business system including tourism and its distribution system carried out by electronics, based on tourism information and e-commerce bank[8].

Generally speaking, consumers use tourism industry Web sites to obtain road maps (59%), accommodation (54%), activity programming (46%), air fares (45%), restaurants and entertainment (36%) and calendars of local events (26%) (Scott's Business Directory, 2002). Of all of the industrial sectors, the tourism industry has known the greatest success in terms of e-commerce adoption[9]. "after a little more than a decade of experience with e-commerce, the travel industry has shaken off some of the growing pains associated with childhood and is looking at tools and techniques that reflect the first steps toward adulthood," explained Jake Steinman, NAJ's president, publisher and editor-in-chief[1]. In addition, terms such as e-commerce and e-business fall short in encapsulating tourism: such terms are transaction-oriented and business-oriented and ignore the fact that the Web is also a medium of curiosity, of creating communities, or just having fun—all of which may or may not result in business being conducted. The tourism product in particular has to do with emotional experiences; it is not just business. The travel and tourism industry as a global (and a globalization) industry demonstrates the following features[2]:

(1) Travel and tourism represent approximately 11% of the worldwide GDP, according to the World Travel & Tourism Council.

(2) The World Tourism Organization predicts one billion international arrivals in the year 2010. On average, tourism is expected to grow faster than other economic sectors.

(3) As an umbrella industry, it relates to many sectors such as culture or sports. Over 30 different industrial components have been identified that serve travelers, which explains the industry's heterogeneity.

(4) Due to its SME structure (especially when taking a destination point of view) it has great importance for regional development. For example, the E.U. hotel and restaurant sector accounts for more than 1.3 million enterprises, or 8.5% of all European enterprises. The majority of these enterprises are small, with 1 to 9 employees.

(5) The supply and demand sides form a worldwide network, where both production and distribution are based on cooperation.

(6) The product is perishable and complex; for example, an unsold hotel bed represents lost income. The supplier risk of loss can be reduced if information access is available.

(7) The tourism product itself is a bundle of basic products. To support the rather complex bundling, products must have well-defined interfaces with respect to consumer needs, prices, and distribution channels.

(8) Tourism is a larger provider of new jobs. It creates jobs for young and old, across the full range of skill levels, in urban and rural areas throughout the world. It also plays a major role in the lives of Aboriginal peoples and businesses. The men and women who work in tourism make up almost four per cent of Canada's workforce[3].

The economic force of tourism extends to other industries, principally recreation and entertainment, travel agency services, groceries, alcoholic beverages, gasoline, local public transportation and parking. In addition, tourism's value is more than economic. It plays an important role in helping on country achieve our national cultural and social objectives. Tourism brings the world to a country. It connects us globally, puts us on the map, and showcases a national identity.

However, tourism is volatile. It is vulnerable to impacts from factors as diverse as terrorism, fluctuating currency rates, and changing consumer preferences; Tourism is competitive, and many people are travelling abroad, while around the world countries are courting travelers aggressively, with skilful marketing plans offering exciting experiences and modern tourism infrastructure.

3.1 Tourism E-Commerce Model

Historically, the tourism e-commerce model vertically meant that tourism industry were going through revolutionary changes, so tourism e-commerce model can be divided into traditional model(traditional tourism enterprises adopt information technology) and revolutionary model(completely new-born Internet based tourism enterprises); horizontally, the tourism e-commerce model means that the tourism e-commerce informationizes its value chain, resulting in numerous value-generating strategies(Figure 1).

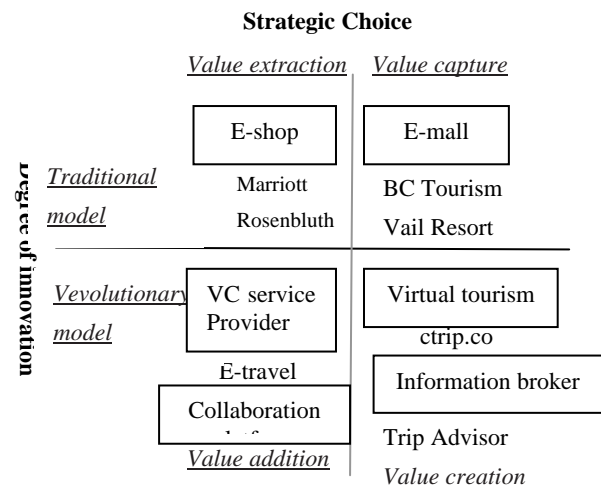


Fig. 1 Tourism e-commerce model

Actually Tourism e-commerce model shows that e-commerce has changed the way firms in tourism can do business. In fact, groups in the hotel sector are developing communications networks designed to compete with Global Destination Systems (GDS). These GDS are important technology solutions for information management and are used primarily by travel agencies and airlines. Most websites, such as Expedia and E-Travel, target leisure and business travelers.

To analyze deeply, the Website is changing the needs of consumers, who are increasingly less loyal, take more frequent vacations of shorter duration, and take less time between choosing and consuming a tourism product. The Website is also forging new ways to satisfy consumer needs, as it allows for an “informatization” of the entire tourism value chain—resulting in numerous value-generating strategies [10]:

(1) Value extraction. Examples of this strategy, which increases efficiency and reduces costs, include process automation and client outsourcing, such as self-check-in of hotel guests or airline passengers.

(2) Value capture. Data mining for forecast or yield management is an example of this strategy, in which client and sales information supports marketing goals.

(3) Value addition. This strategy involves a linear combination of products and services to create richer product bundles. One example is the linkage of mobile services and existing Web sites, to advise tourists during their travel.

(4) Value creation. The focus here is on network effects, involving, for example, tourists participating in service definition and destination planning.

With such strategies, not only are processes changed, but new services can be designed, extending the range of options to customize and configure products. Customization describes the process of individualizing products or services based on IT enabled mass customization. Configuration refers to the bundling of different product or service components to integrated offerings. Companies combine their core products with layers of additional services. Given the dynamics of the sector and the very competitive e-market, nearly all stakeholders have implemented their strategies.

3.2 Structural View of Tourism E-Market

Tourism is an information-based business, the product is a “confidence good,” and an a priori comprehensive assessment of its qualities is impossible. Tourists must leave their daily environment to consume the product. At the moment of decision making, only an abstract model of the product is available, based on information acquired through multiple channels, such as television, brochures, word-of-mouth, or the Web. Tourism products require information gathering on both the consumer and supply sides—and thus entail high information search costs. Such informational market imperfections lead to the establishment of comparably long information and value chains.

Figure 2 presents a B2B2C application and differentiates between the supply and demand sides and the respective intermediaries. The nodes indicate the relevant types of players in the field, and links mark the relationships as well as the information flow, with only the most relevant links shown. We designate suppliers like hotels or restaurants, mostly SMEs, as

“primary.” With respect to a functional differentiation, these companies are on the same level as the big players like airlines. Tour operators can be seen as product aggregators, and travel agents act as information brokers, providing the final consumer with the relevant information and booking facilities. CRS/GDS (central reservation systems/global distribution systems), stemming from the airline reservation systems developed in the 1960s, also include products such as packaged holidays, or other means of transport. Whereas the intermediaries on the right side can be seen as the professional connection between supply and demand (mainly based on the electronic infrastructure and functionality of CRS/GDS), the left side is relevant for the management, planning, and branding of a destination. These national, regional, and local tourism organizations are normally publicly funded, act on behalf of all suppliers within a destination, and are not engaged in the booking process. The upstream flow of Figure 1 consists of product information, whereas the downstream flow reports on market behavior, mostly represented in terms of statistical aggregates. Both information flows create a tourist information network linking all market participants and reflecting the economic relationships between them.

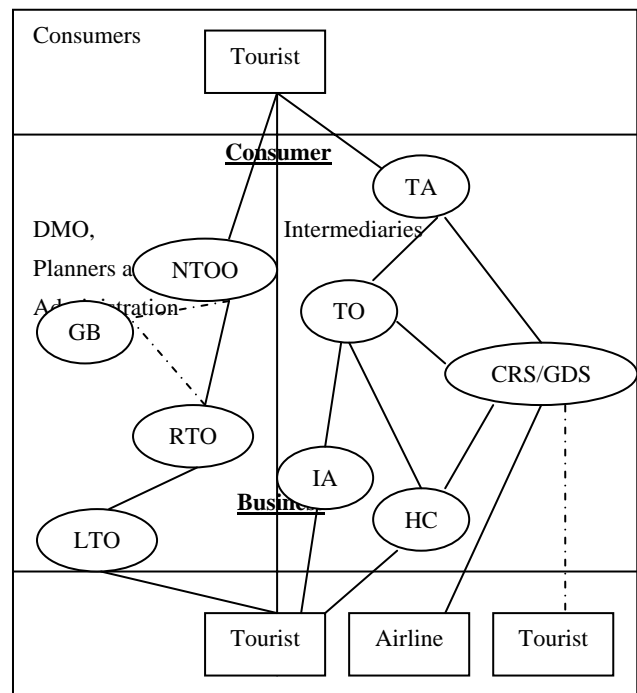


Fig. 2 Structural view of the tourism e-market [11].

- (Note: CRS: central reservation systems;
- DMO: destination marketing organization;
- GDS: global distribution systems;
- GB: government bodies;
- HC: hotel chain;
- IA: incoming agent;
- LTO: local tourism organization;
- NTO: national tourism organization;

RTO: regional tourism organization;

TA: travel agent;

TO: tour operator.)

For the special B2B2C structure of tourism e-market, tourism has also become the playing field for new entrants, either startups or companies from the media and IT sectors. Since tourism is an information-based business, it fits well with their respective background. One can observe a trend toward further specialization and an ongoing deconstruction of the value chain, paralleled by an integration of players and products. Companies compete and cooperate simultaneously, and boundaries within the industry are blurring. Each market player is affected:

(1) Tourists are addressed by more players, and they play a more active role in specifying their services, such as by using reverse-auction sites.

(2) Travel agents see a diminishing power in the sales channel, prompting them to put more emphasis on consulting and more complex products.

(3) Internet travel sites are providing new market functionality and technology, focusing on personalized intelligent tools for travelers (we will describe the recommendation functionalities).

(3) Destination management organizations are developing cooperation models within destinations. Here they will occupy a new role as consolidator and aggregator.

(4) Based on mass-customization and flexible configurations, tour operators will blur the boundaries between the individual and packaged tour. For example, the Italian operator Costa Crociere has developed a personalized cruise builder.

(5) CRS/GDS demonstrate an “Intel inside” marketing strategy by linking to major tourist Web sites to increase transaction volume. They also move into direct sales for the retail segment.

(6) Suppliers will increasingly form alliances and support electronic direct sales, increasing price competition as well as price differentiation. They will also redefine customer processes such as electronic ticketing or automated check-in.

Such developments are leading to an evolution of the market best described as an ongoing interplay between concentration (as in the U.S. with the major online travel sites such as Expedia, Orbitz, or Travelocity) and the simultaneous entrance of new players. The increased complexity associated with this evolution calls for technical innovations to generate superior consumer services such as transparent access, market overview, and price comparisons.

3.3 Tourism E-Commerce Process

Tourism e-commerce process describes the whole process of supply and demand of tourism. As we know, the emerging business scenario is based on flexible network structures and increasing consumer integration. If one adds the tourist life cycle, taking into consideration the mobility of travelers, one can link the respective tourist phases with company processes (see Figure 3).

The processes of supply side cover the planning, marketing sales, monitoring, and relationship regulating. The suppliers come together, and deliver services to the tourists, whose life cycle is pretrip, on site and after trip.

Compared with figure 2 showing the information flow and relationship between tourism marketing participants, figure 3 just presents the service process plus tourist life cycle.

Processes obviously cross company borders, leading to distributed B2B2C applications, supporting both company cooperation as well as mobile communication with consumers.

4. CONCLUSION

Through the model, structure and process analysis of tourism e-commerce, Travel and tourism have illustrated how e-commerce may change the structure of an industry, and in the process create new business opportunities. The deployment of more specialized services, flexible network configurations, and further consumer integration will lead to smart marketplaces that integrate all stakeholders. The B2B2C structure of tourism e-market enables as well as enforces this development, demonstrating that tourism is an interesting field of application as well as research. As such the analysis of tourism e-commerce, actually a B2B2C application, may also be of interest for other industries to learn from this development and to understand emerging e-marketplaces.

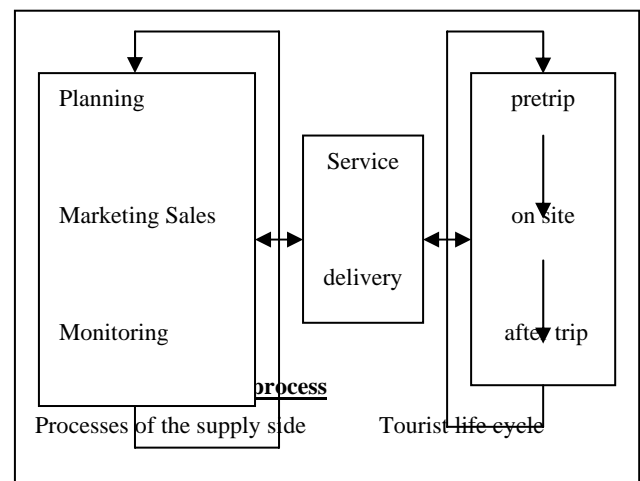


Fig. 3 Tourism process: tourist life cycle plus companies' processes (both suppliers and intermediaries).

5. ACKNOWLEDGMENTS

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6. REFERENCES

- [1] http://www.traveldailynews.com/new.asp?newid=17926&subcategory_id=77 Theodore Koumelis-Monday, August 09, 2004
- [2] Hannes Werthner, Francesco Ricci, Communication of the ACM, December 2004/Vol. 47, No. 12,101-105.
- [3] http://strategis.ic.gc.ca/epic/internet/indsib-tour.nsf/en/h_qq00102e.html, Tourism Counts: A Consultation Framework for a National Tourism Strategy, Nov, 05, 2003.
- [4] Florescu, D., Levy, A., and Mendelzon, A. Database Techniques for the World-Wide Web: A Survey. *Sigmod Record* 27, 3 (1998), 59–74.

- [5] Efraim Turban, Jae Lee, David King and H. Michael Chung. *Electronic Commerce: A Managerial Perspective*. Higher Education Press, Pearson Education, 5(2001), 4-5.
- [6] <http://www.sfgate.com/cgi-bin/article.cgi?file=/chronicle/archive/2000/04/11/BU81082.DTL>, Whatever B2B2C Means, One Thing is Clear--It's the Place 2B with e-tailers in peril, the smart money's on those offering help, Kathleen Pender, Tuesday, April 11, 2000.
- [7] <http://www.wordspy.com/words/B2B2C.asp>, Jessica Seigel, "While Nasdaq Burns, "The New York Times, April 23, 2000.
- [8] Chen Guogui, Hou Weihua and Wang Yanzhang, the development and countermeasures research of Chinese tourism e-commerce, *Academy Journal of Dalian University of Technology*, 10.
- [9] Schuster, A. A Delphi survey on electronic distribution channels for intermediaries in the tourism industry: The situation in German speaking countries. In *Proceedings of the Enter 2002 Conference*. Springer Verlag, Wien, NY, 224–234.
- [10] Sweet, P. *Designing interactive value development*. Phd. Thesis, Dept. of Business Administration, Lund. Univ., Lund Business Press. Sweden, 2001.
- [11] Werthner, H. and Klein, S. *Information Technology and Tourism—A Challenging Relationship*. Springer Verlag, Wien, NY, 1999.