Information Technology in Tourism Industry – What More Needed?

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Abstract

Tourism has become a major phenomenon of the modern society. People travel due to different motives. Tourism industry is an amalgamation of transportation, accommodation, entertainment & recreation and includes intermediaries (travel agents & tour operators). Since this is the industry of the industries, for its proper coordination & smooth running, use of information & communication technologies has become a vital part of this industry. For real time availability of seats in the airlines, railways & Volvos and their bookings IT plays very important role. Airlines are using Global Distributions System (GDS) for these purposes. Hotels are using IDS, interactive TV and Interactive Phone for reservations and operations. Many software and networking channels have been developed for travel agencies to solve the purpose ranging from bookings to accounting. Introduction of information technology in the tourism industry has changed its dimensions and resulted in the form of exponential growth. Now information and options are available online and one has to choose the best from these options to make booking and pay online. This has reduced the unnecessary rush of customers in booking offices. Its feasibility can be seen in terms of reduced manpower requirement in the offices. This study is focused on the importance & use of IT in tourism industry and its future. The study is exploratory in nature as it is based on the secondary sources of information. It covers the details of basic IT tools associated with tourism industry and the drawback involved as well as identifies what improvements are required to make it more effective and easy to use.
Keywords: Tourism, Information Technology, CRS, GDS, online booking, internet.

Introduction

Tourism is the movement of people outside their community. The motivations behind travel may vary from holidaying, leisure, conference, business, and visiting friends & relatives (VFR). Tourism industry is an amalgamation of other industries like transportation, accommodation, entertainment & recreation and includes intermediaries' like tour operators. From beginning to completion of the activity, "Tourism", requires the close and proper coordination of intermediaries like travel agents, transportation and accommodation providers. For fast, uninterrupted, clear and free flow of messages and information the most important medium is information technology.

Information Technology is defined as the collective term given to the most recent development in the mode (electronics) and machines (computers & communication technology) used for acquisition, processing, analysis, storage, retrieval, dissemination and application of information. Development of IT has revolutionized economies & enterprises. During the last decade the advancement in ITs has revolutionized the capabilities as they constantly increase computing speed, decreased equipment size, reduced software & hardware costs & improved the reliability. Fusion of ITs provides unprecedented tools, which facilitate the creation of new industries and restructuring of existing industries.

Information technology has played a central role in the growth and development of the tourism industry. In the early years of mass global tourism (from 1950s to the 1970s), computer systems were used to support the internal functions of large operators in the transportation, hotel and food services sectors. Also Central Reservation Systems (CRSs) and Global Distribution Systems (GDSs)- Sabre,

Amadeus, Galileo, Worldspan and Abacus – were developed first by airlines and then by hotel companies to enable travel agencies (and other similar businesses) to access schedule and pricing information and to request reservation for clients (Gretzel and Fesenmaier, 2006). The success of CRSs and GDSs paved the way for the interned, enabling the travel and tourism industry to quickly exploit its latent strength. Today, travel and tourism industry is one of the most significant users of internet technology, which has become one of the most important communication tools for travelers as well as travel and tourism enterprises. Internet application and other technological innovations have influenced tourism in a variety of ways and resulted in fundamental changes in the industry structures and traveler behaviors. Tourism is an information-based business, the product is a "confidence good," and a prior comprehensive assessment of its qualities is impossible. 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.

For instance, online reservation and payment options are used by many travel suppliers and consumers and have led to the emergence of tourism as one of the most important e-commerce categories. It can be argued that the primary reason for this rapid adoption of e-commerce in tourism lies in the close fit between the characteristics of tourism products and the capabilities of e-commerce applications. That is the purchase of tourism-related products and services typically involves the movement of information rather than the physical delivery of goods and many times occurs in an international context and is, therefore, often concluded through credit card payments. Also the complex and strictly hierarchical tourism distribution system of the pre-internet period led to enormous information asymmetries and offered little choice for consumers in terms of where or how to acquire tourism products. Beyond e-commerce, advances in wireless networks and mobile technologies promise new application for travel that will spur continuing innovation in the industry and will increasingly influence the experience travelers have.

In this information age, there exists a widespread belief that attaining organizational effectiveness is closely related to the organization's ability to use timely, accurate & relevant information for making business decisions. To this effect organizations have deployed IT like the internet, intranet, extranet, corporate portals etc. It provides benefits like single platform to access personal information benefits, content, web-based applications & legacy systems, sophisticated search capabilities, integrated workflow across multiple databases, single sign on with unified password for easy, secure system use.

By using IT firms can develop & deliver the right product to the right customer, at the right price & place, without over depending on intermediaries. An example of the same can be seen as "CRIS" (Centralized Railway Information System - the Indian railways online booking portal). Indian Railway Catering and Tourism Corporation (IRCTC) has developed the online booking system to reduce the rush at reservation counters and to minimize the role of intermediaries. By using this facility one can book tickets from home by using internet. Approximately 1500 tickets are booked online every minute on IRCTC website. After this a new system of mobile booking facility made available. Now the passengers need not to carry physical tickets, if they have the same in the electronic form. Therefore, one major goal of a tourism information system must be to give the customer the possibility to buy tourism products online.

According to a Thomas Cook India, GDS book over 2,000 transaction per second worldwide. IATA has projected that 70% of the travelers would do an online check-in. In the Indian context, the number of online check-in at MIAL (Mumbai International Airport Ltd.) is at 63%, which in 2008 was a mere 25%. According to a survey by Thomas Cook 59% respondents visited three or more sites to make a travel purchase and 51% of people stated that they were not able to get information online to make a decision. 81% of respondents felt that the online mode of payment was robust and offered adequate security and used it as a matter of convenience, only 19% of these respondents were at ease while booking international flights.

Online booking is increasing exponentially, approximately 2500 booking per minute is done on IRCTC website.

The Indian e-commerce market is expected to gallop at an impressive growth rate of 47 per cent to over Rs 46,000 crore in the 2011 calendar year, a report said. "This growth is primarily driven by the online travel industry, which contributes 76 per cent to the total net commerce industry in India today," a report released by the Internet and Mobile Association of India (IAMAI) said. According to the study, around 7.4 million people in the country bought products over the Internet in 2009.

Literature Review

Tourism management is a vast field with complex aims requiring different plans of action due to its special characteristics of being intangible, inseparable, heterogeneous and perishable. Karl W Woober in his research paper, 'Information Supply In Tourism Management', critically examines the role of information technology in tourism planning and mentions that the communication problem is of vital importance in the everyday life of managers' daily events. IT has major role in showing the information about the destination, in coordinating & implementing sales promotion measures & distributions. Optimizing the knowledge presentation of service quality in information services has been neglected. From management point of view the importance of management information system has an important role in decision making in different sectors of management in the organization.

In order to satisfy tourism demand and survive in the long term there is no choice but to incorporate technology and enhance the interactivity with the market place, commented by Dimitrios Buhalis in 'Strategic Use of IT in the Tourism Industry'. ITs facilitated factors enhance consumer satisfaction in respect of the accuracy and comprehensiveness of information on destinations' accessibility, facilities, attraction, activities. Consumers have more information & enjoy greater choice. A reduction of the bureaucracy and paper work effectively frees time for consumer service, customizing the product & establishing "one-to-one" marketing, providing new services, facilitating operational tasks, and personalized services. CRS has made available the entire variety of choices of travel, lodging & leisure services, destinations, holiday packages, as well as display of actual prices & availability of such services for non commercial internet sites for planning, searching, purchasing and amending their travel. CRS, GDS & WWW have globalized the tourism & hospitality industry & made services available on the click of mouse. Finally Buhalis suggests closer cooperation is required throughout the tourism industry alongwith certain degree of standardization and inter connectivity.

Arpita Khare & Anshuman Khare (Travel & Tourism Industry Yet To Exploit the Internet - 2010) conclude that the Indian customer is influenced by the service convenience attributes of online travel websites whereas security measures in online payments always remain ambiguous. Due to this still a large number of customers do not gather the information. They finally suggest that travel portal should be user friendly and there should be uncomplicated instructions about payment mode & transactions. Tie up with nationalized banks may reduce customer skepticism regarding financial transactions.

Depthi Shankar (ICT and Tourism: Challenges and Oopportunities), contend that IT is creating new competitive global market with ability to reach a global audience, obtain instant market information and conduct electronic business transactions and has increased economic efficiency and opened markets for goods & services from developing world. Concept of e-tourism and the change in industry form from information to knowledge industry has been established.

Hennes Werthner (E-Commerce and Tourism) states that the most important role of IT can be seen in terms that the tourism industry is leading in IT application in the B2C (business to customer) arena. The web is used not only for information gathering, but also for ordering services. A new type of user is emerging who acts as his own travel agent and builds a personalized travel package.

Gretzel and Fesenmaier (2006) emphasizes that the travel information system has become important link provider between travelers and industry players. Further the write up presents an overview of ways in which information technology has shaped and continues to shape various aspects of tourism. It also discusses the impact of the internet from

both the industry as well as the consumer perspective.

Dimitrios Buhalis & Peter O'Connor (2005) mention that e-tourism and the internet in particular, support the interactivity between tourism enterprises and consumers and as a result they re-engineer the entire process of developing, managing and marketing tourism products and destinations & then conclude that only those organizations that appreciate the opportunities which ICTs bring and manage their resources successfully will be able to enhance their innovation and competitiveness in the future. Tourism organizations can also use ICTs for building awareness and promotion through newsletter, pop-ups and search engine optimization strategies. The future of e-tourism will be focused on 'consumer centric' technologies that will enable organization to focus on their profitability through a network of partnerships.

Roberto Daniele (2003) is of the view that the advent of internet has tremendously developed the travel & tourism industry. It has become the single largest category of products/ services sold over the internet, and the proportion of business being transacted thorough this medium is constantly growing.

Objectives:

1. To identify the role of information technology in the tourism industry.
2. To find out the best possible means to use IT.
3. To encounter the threats arising by the use of IT in tourism industry and increasing the efficiency of the sector.
4. To suggest corrective measures to overcome the problems.

Methodology

The study is exploratory as it aims in to discover the impact of information technology (IT) on tourism industry and pace of growth after introducing IT. The study is based only on secondary data. For this purpose research papers and articles on the related topic and issues are gathered from reputed journals, magazines, periodicals and newspapers to consult and get the inference. Recent data has been used from reputed travel magazine like TravTalk and Financial daily, The Financial Express. Help from various other websites has also been taken to collect relevant information.

Need of Information Technology in Tourism

The importance of information technology in tourism, especially of World Wide Web, has increased tremendously over the past year and this trend will certainly continue. IT have facilitated business transaction in the industry by networking with trade partners, distribution of product services and providing information to consumers across the globe. IT spread throughout almost all aspects of tourism and related industry. IT is necessary not only in smoothly running the travel business but also for the development of the tourism product. At beginning for identifying and developing tourism site Geospatial Information Technologies are used. The integration of IT in destination marketing organization is an important key to success.

Different aspects of industry: Application	
Site development:	GIS used for identification of Tourist site and destinations
Marketing:	Advertisement, promotion
Operations:	Buying and management of supplies and services
Customer services:	Management of customer relationships through booking travel, lodge etc
Monitoring:	GIS and GPS is also used for managing and monitoring tourist sites.

Source: ICT and Touirsm – Challenges and Opportunities by Deepthi Shanker

There is a lot of information required by a tourist to visit a place and IT assists to find the solution. Information required varies from geographical, cultural, accessibility, accommodation facility, eating points, available activities and specialties, quality of facilities and price to be charged and entry and exit formalities as well as rules and regulations.

Communication and information needs in tourism		
Pre-Consumption	**Consumption**	**Post-Consumption**
Planning, expectation, formation, decision making, transaction, application	Connection, navigation, Short-term decision making, On-Site Transaction	Sharing, Documentation, re-experiencing, Attachment

Present Setup of IT in Tourism Industry

Transport Sector: Transport provides an essential link between tourism origin and destination. Before setting out on a journey reliability of service provider is seen mainly on the review portals, newspapers, and travel magazines. Use of Global Positioning System (GPS) has become mandatory for taxis and autos in many cities. Coach/ taxi are equipped with radio communication systems for various uses. Airlines have also started web check-in to reduce the waiting time for traveler at the airport.

Accommodation Sector: A visitor can access information about the kind of accommodation, their services, price and availability through the internet. Intangible products can be made tangible by using 360 degree view of the hotel, room, restaurants and activity area. Computers at the reception are generally having IDS software to maintain the account of the guest. Programmed electronic card is used as door keys. Electronic safe and interactive televisions are the other IT based instruments which are generally used in hotels.

Attraction Sector: Both manmade and natural attractions owners need to communicate or inform their potential customers about the features, specialty, location and accessibility. National Tourist Offices or other related government organizations promote the destination through promotional videos, interactive websites, television advertisement and travel documentaries. E-Visa has been introduced to avoid unnecessary waiting for stamping on passport, e-customs clearing and immigration check in ports has also been implemented.

Travel intermediaries and the role of information technology

Travel intermediaries are travel agents, tour operators, MICE organizers who play a unique role in the distribution and sales of tourism products. For example, an airline, which flies many destinations, can have representative but cannot have offices in all routes it serves. Cost of operation for running airline or hotel booking office in all the cities may cause high fixed cost. This makes the travel intermediaries indispensable partners for efficiently distributing and marketing the product. For the same these intermediaries get some commission. To sort out the availability of seats, price and holding the booking, airlines developed Computer Reservation Systems (CRSs) in 1950s and later Global Distribution Systems (GDSs).

Computer Reservation System (CRS): CRS is the centralized system developed by airlines to maintain efficient inventory control. This has now become indispensable to airlines because this enables their revenue stream to be maximized due to inventory control. The travel agent is connected online to the central host

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computer system. In this system it is possible that airliners, hotels and car rental companies can talk to the travel agent or vice versa. This system contributes to a great extent in increasing sales volume and giving precise information on the availability and selling of the products efficiently ensuring substantial profit gain.

Global Distribution Systems (GDS): GDSs are systems which distribute reservation and information services to sales outlets around the world, owned by a group of airline companies. Amadeus, Galileo, Sabre, Abacus and World Span are some GDSs. These world's leading GDSs are switches or simply computers that are connected on the one side to many different supplier systems and on the other side to many end users (travel agents).

Online Travel Portals: Availability of free information does not ensure that customers will use it, but depend on the reliability of supplier. The role of online travel websites is to facilitate in increasing accessibility of information and enhancing communication. The ability to make comparisons between the different products and services is possible in online environment without moving to different agencies. Product information, pricing information, online booking facilities and quick webpage load time are determinants of customer satisfaction. Travel websites with accessibility, navigation, design, reliability and customization of the services are a boon to potential and propective cumtomers. In addition to all these, payment options is one of the very important reasons behind success of an online portal. Many accept payments only through credit cards whereas other accept debit card, internet banking, cash cards etc. reliable payment gateway is important otherwise people do not want to share their account details.

Threats and Challenges

> Use of IT in tourism in India is relatively young and still tourism industry in India is not well organized to absorb the advances in information technology. They generally lack technical and financial resources and their scale of operation is too limited to take advantage of information technology.

> The low cost internet has resulted in creation of many useless websites in the form of small and medium travel enterprises possessing inadequate skills and insufficient resources to conduct website effectively.

> The internet reduces distribution costs as intermediaries commissions are eliminated, however the squeeze on price, yield and revenue and the homogeneity of web sites is in fact annoying. It is not clear that individual small agencies are able to use this business intelligence, or recognize its value.

> The internet is a commonly available technology, however awareness of its functionality and resources and expertise to take advantage of this functionality is required. It is observed that many online agencies either are not aware of this or do not possess or have ready access to resources needed to make the most of the opportunities potentially available. To achieve full benefit of IT full exploitation of web services are necessary.

> ITs do not guarantee profitability and they may even worsen the competitive position of firms and the attractiveness of an industry.

> In order to satisfy tourism demand and service in long term there is no choice but to incorporate technology and enhance the interactivity with the market place. Its can be fruitful only if certain prerequisites are satisfied. Most important, innovative business process re-engineering and top management commitment are required with a long term planning & strategy and training throughout the hierarchy.

> There has not been any specific policy or coordinated approach so far for the development of information products on tourism at the national level. An example of claim of TATA & Sons on www.oktatabyebye.com is an example.

Findings:

1) Direct selling to the customer has increased now as compared to recent past. As online booking procedure is very easy and step by step, so it is easy to handle and making payment is comfortable and secure as most of the portals are offering multiple options for the payment.

2) The number of new intermediaries such as internet portals specialized in selling tourism products has increased and sale of airline tickets and hotels bookings are mainly through these internet portals.

3) The increased number of online travel portals are sometimes misguiding, as all having somewhat different information. Many of the people think the information available online are not enough for decision making.

4) Customers have access to the distribution channels traditionally used by tour operators through Internet.

5) Companies can regularly alter products and services based on the needs and expectations of clients through regular interaction through Internet.

6) Increase in the transparency and the efficient relationship between customer and management.

7) Consumers are now asking better services. They are more specific with regard to content and the details of the arrangement. They are more cost conscious and often tend to make comparisons between two products.

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