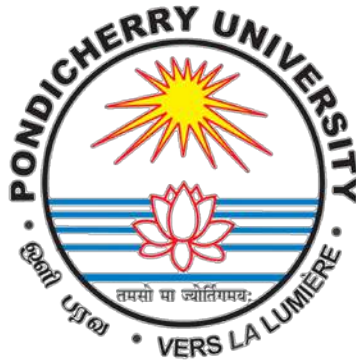# PONDICHERRY UNIVERSITY

(A Central University)

DIRECTORATE OF DISTANCE EDUCATION

E-Tourism

Paper Code : MBTM 4005

MBA - TOURISM

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E-Tourism

Objectives

Students will be able to:

- ➢ To understand emerging business models in tourism and travel industry;
- ➢ To study the impact of Information Technology on tourism and travel sector; and
- ➢ To explore the scope of entrepreneurship in the emerging e-tourism business.

Unit – I

Introduction to E-tourism, Historical Development - Electronic technology for data processing and communication - Strategic, Tactical and operational use of IT in Tourism.

Unit – II

Global Distribution System: History & Evolution - GDS & CRS - Levels of CRS Participation - Hotel Distribution System - Cases of Amadeus - Galileo, World Span, Sabre, Abacus - Changing Business models of GDS.

Unit – III

Typologies of E-tourism: Business models - Business to Business (B2B) - Business to Consumer (B2C) - Consumer to Business (C2B) - Consumer to consumer (C2C) - Business to Employees (B2E) - & Business to Government (B2G).

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Payment Systems in E-tourism - Payment Gateway - Billing and Settlement Plan (BSP) - Security Issues and Certification -Future of E-tourism - Travel Blogs - E-marketing

and promotion of Tourism Products - Challenges for conventional business models & Competitive strategies.

Unit – V

Amadeus Practical – Hands on Amadeus Software - Searching – Building, Retrieval, Display & Cancel of PNR – Fare display – Itinerary pricing – Issuance of tickets.

References

1. **Buhalis D. (2004),** ETOURISM: INFORMATION TECHNOLOGY FOR STRATEGIC TOURISM MANAGEMENT, *Prentice Hall India.*

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UNIT - I

Unit Structure

Lesson 1.1 - Introduction to E-Tourism

Lesson 1.2 - Use of Information Technology in Tourism

Lesson 1.1 - Introduction to E-Tourism

Learning Objectives

After reading this unit, the learners should be able to

➢ Understand the meaning and concepts of electronic tourism

➢ Gain knowledge on the key activities and players in electronic tourism

➢ Know the relevance of electronic tourism in the Indian Tourism industry

➢ Appreciate the historical development of e-tourism

➢ Gain an understanding of the significance of Electronic technology for data processing and communication in e-tourism

Introduction

The Internet and information technology have become the most imperative innovation in the history of mankind next to the invention of printing press. The Internet integrates numerous features of present media with new competence of interactivity and addressability; thus, it renovates not only the way individuals conduct their business with each other, but also the very significance of what it means to the society. Currently, millions of people that include customers, businessmen and employees worldwide rely on the Internet for working, learning, socializing, entertainment, leisure and shopping. Since the emergence of the Internet, travel planning (e.g., travel information search and booking) has always been one of the major reasons that people use the Internet.

The travel marketplace is a global arena where millions of buyers (travel agents and the public) and sellers (hotels, airlines, car rental companies, etc.) work together to exchange travel services. Among the "shelves" on which buyers explore for travel-related services are world's global distribution systems (GDS) and the Internet distribution systems (IDS). These systems have become Internet supermarkets connecting buyers to the service providers and allowing reservations to be made at less time and with less effort. Ever since the appearance of the electronic and Internet the tourism and travel industry has started sprouting around the electronic media and are becoming more and more customer friendly.

The information centric nature of tourism industry makes it very critical for customers to access internet. The revolution of the Internet and information and communication technologies is making the Electronic media an integral part of tourism and it helps and allows tourists plan or customise their plans accordingly through internet applications offered by the tourism players. At present more travel is sold over the Internet than any other consumer product. The Internet has become the most appropriate channel for selling travel as it brings a wider network of suppliers and a widely disseminated customer groups together into a centralized market place.

E- Tourism in India

The revolution of the Internet and information and communication technologies (ICTs) in India has had already insightful repercussions for the tourism industry. A whole system of Communication Technologies and the Internet has been rapidly diffused throughout Indian tourism sectors. Subsequently, online travel bookings and associated travel services are accepted as one of the most thriving e-commerce implementations.

Tourism has closely been connected to progress of Information and communication system for over 10 years in India. The tourism industry initially concentrated on utilizing information system to increase efficiency in processing of information within and managing distribution.

During the last decade of 20th century, India saw the emergence of e-tourism, its innovation and growth. It is because of the online revolution and its utility where the tourists are more interested to get information on destinations, facilities, availabilities, prices, geography & climate and present status of friendly relation. This led to the development of e-commerce strategies in tourism industry and more services in the form of online hotel booking, flight booking, car booking, bus booking came into forefront as online services provided by the big online travel companies such as Travelchacha.com, Makemytrip.com, Yatra.com, Cleartrip.com, Ezeego1.com, Arzoo.com, Travelguru.com, Travel.indiatimes.

com, ixigo.com, travelocity.co.in etc. On these sites, the travellers have wide option of exploring details of hotels, flights, cars, buses and other allied services.

At present, the information and communication technology supports all operative, structural, strategic and marketing levels to facilitate global interaction among suppliers, intermediaries and consumers around the world and Indian players. Now in India the online travel bookings and associated travel services are recognized as one of the most successful e-commerce implementations. Many tourism-related organisations had to go through a major business processes re-engineering to capitalise on the emerging technologies in order to transform their service process and data handling to match the global standard.

More specifically, the opening up of the Indian market for foreign players and the changes in the aviation industry policy attracted large number of international players across the world to establish their business centres in India. The foreign players were brought in their technical know how's and their innovative business process into the Indian market that contributed to the forceful adoption on technology and information system of tourism players to stay alive in the competitors.

The global business dimension also increased the demand of international consumptions and tourism related services both domestic and international, which made the tourism associates to re-engineer their products and process to match the expectation of the market. According to 2013 CNN global travel survey, India is now one of the top tourism destinations in Asia as it has received 3.3 million foreign tourists during the first half of this year.

Currently the Indian market is well equipped and competitive as any of the international tourism market across the world as it was able to adapt to the rapidly changing IT enabled tourism process and service delivery by partnering with international participants. The amount of foreign direct investments (FDI) inflow into the hotel and tourism sector during April 2000 to April 2013 was worth US$ 6,664.20 million, as per data provided by Department of Industrial Policy and Promotion (DIPP), Ministry of Commerce.

The below Figure shows the contribution of Indian tourism to the world tourism. The graph reveals that there is a study growth in the Indian tourism contribution to the world market especially after 2000. The emergence of ICT during the beginning of this century can be one of the major reasons for such a rapid growth and increase in the significance in the world market as reported by the Indian tourism department.
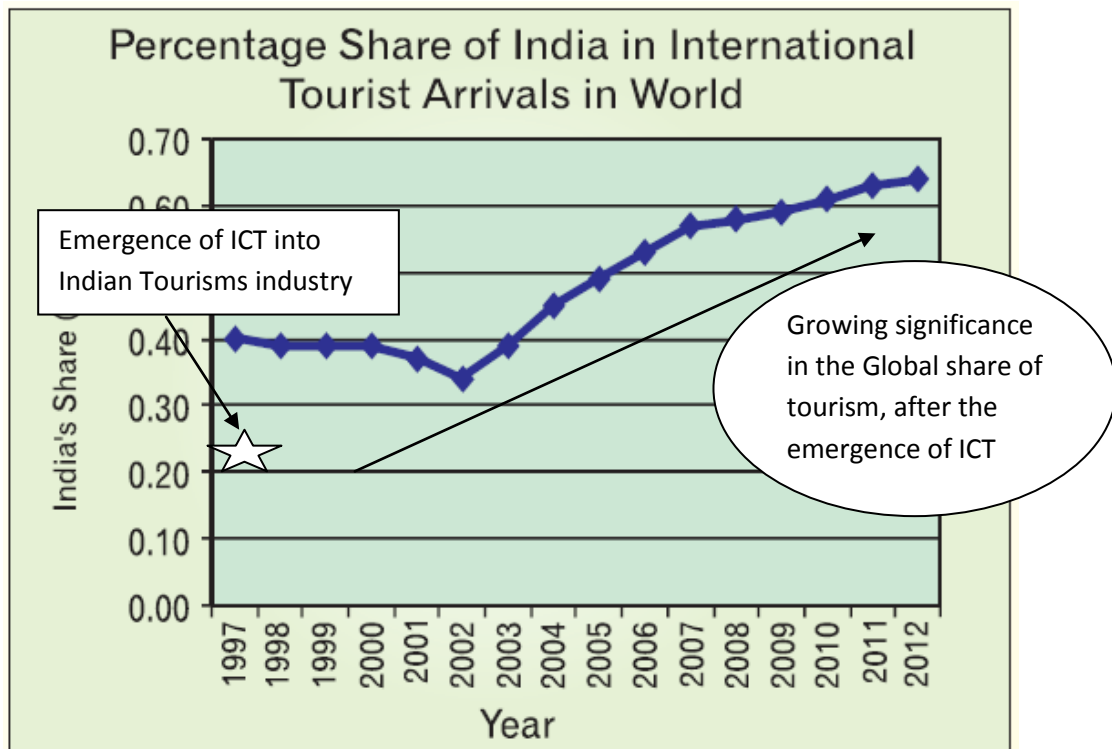
India's share of India in International tourism

Source: Indian tourism statistics (2012)

The Internet Economy Watch Report for the month of September 2012, released by the Internet & Mobile Association of India (IAMAI) indicates a marginal growth of 7 percent in online booking of air tickets when compared with the numbers of corresponding month last year.

Though Indian market is considered to be one of the competent it has still more to learn and adapt from European markets. Tourism department (2013) has reported that India and Japan will plan to strengthen cooperation in tourism sector. Both the countries will identify areas for working together and explore new opportunities in tourism sector especially in the field of human resource development (HRD) and investment in the tourism sector. (IBEF, 2013)

Understanding E-Tourism and its Concepts

This section of the chapter will clarify e-tourism and explain various concepts that relate to the electronic tourism.

E-Tourism

It can be understood as the application of Information and communication technology on the various sectors of the tourism industry.

According to Buhalis (1998) "E-tourism is the digitisation of all the processes and value chains in the tourism, travel, hospitality and catering industries that enable organisations to maximise their efficiency and effectiveness".

The above definition clarifies that electronic tourism is the digitalisation of all practices and value chains in the tourism, travel, hospitality and catering industries.

E-tourism cannot be understood as an independent process or system as it comprises of numerous participants and players those utilise the electronic mode through information technology and communication system to reach the customer directly or indirectly. The e-tourism takes different forms that can be accessed by the customers through different channels and distribution systems.

Information and Communication Technologies (ICTS)

According to Buhalis (1996), ICTs include "the entire range of electronic tools, which facilitate the operational and strategic management of organisations by enabling them to manage their information, functions and processes as well as to communicate interactively with their stakeholders for achieving their mission and objectives." ICTs include not only the hardware and software required but also the groupware, net ware and the intellectual capacity (human ware) to develop, program and maintain equipment).

Poon (1993) has defined information and communication technology as the "collective term given to the most recent developments in the mode (electronic) and the mechanisms computers and communication technologies) used for the acquisition, processing analysis, storage, retrieval, dissemination and application of information.

ICT effectively integrates the entire range of hardware, software, groupware, net ware and human ware and blurs the boundaries between equipment and software. Thus, ICTs emerge as an integrated system of networked equipment and software, which enables effective data processing and communication for organisational benefit towards transforming organisations to e-businesses. This course material will use 'IT' and 'ICT' interchangeably.

Electronic Commerce (E-Commerce) and Electronic Business (E-Business)

According to Turban *et al.* (1996), "E-commerce is the process of buying, selling, or exchanging products, services, or information via computer networks, including the Internet". In this book, the terms are used interchangeably. Electronic business includes not

only purchasing and selling but also includes servicing the customers, work together with business associates, conducting electronic learning, and performing e-transactions both internally and externally by an organistaion.

Internet

Internet is the network of all networks. Internet is a network which associates numerous networks and surfers around the world and a network that no one owns outright. The terms, the Web and the Internet, have often been used interchangeably; however, the Web is part of the Internet as a communication tool on the Internet. Additionally, the terms, the Internet and ICTs, are often utilized in parallel; however, rigorously speaking, the Internet is part of ICTs.

Infomediaries

An electronic intermediary that provides and/or controls information flow in cyberspace, often aggregating information and selling it to others. The most well-known infomediaries in the tourism industry are Trip Advisor and Holiday Check which successfully implement a Web 2.0 approach and integrate the users as producers of trusted content.

Meta mediaries like travel meta-search engines (TSEs) appear between suppliers and consumers to aggregate and filter out relevant and pertinent information from the wealth of material. TSEs like Sidestep, Mobissimo and Kayak enable customers to compare offers and prices by carrying out live queries to suppliers, consolidators and online agencies and presenting the results transparently.

E-Tourism Players and their Activties

The main actors in the tourism industry include governments, tour operators, hotels, airlines and other transport operators, and tourists or consumers. Each of these actors has a stake in the development of the electronic market. Each is expected to be affected in different ways by the changes brought about by electronic commerce.

The concerns and interests of these stakeholders need to be addressed in order to ensure that changes are managed and promoted to the benefit of all. Each of these players utilise information and communication technology in their processes to complement each other on making e-tourism efficient. Some of the e-tourism activities performed by the main stakeholders are discussed below.

a. E - Airlines

Due to the complexity of airline operations, they realised the importance of IT very early as they believed that it will help them making them efficient, quick, low-cost and accurate management of their inventory and in-house organisation. Initially the bookings and reservations were made on physical display boards, where the travellers were listed. Travel agencies had to locate the finest routes and fares in physical and then check availability and make bookings by phone, prior to issuing a ticket manually.

Distribution is a vital component of airlines' approach and competitiveness, as it determines the cost and the capacity to access the travellers. The cost of distribution is increasing considerably and airlines find it difficult to control. Currently, the communication technology is used heavily to support the Internet distribution of airline seats. These systems are at the heart of airline operational and strategic agendas. This is particularly the case for smaller and regional carriers as well as no-frills airlines which cannot afford GDSs' fees and aim to sell their seats at competitive prices. This has forced even traditional or full-service to recognise the need for re-engineering the distribution processes, costs and pricing structures.

E-airlines focus on the following aspects:

- ➢ Improving the accessibility, customer relationship and their business associates;
- ➢ Electronic bookings
- ➢ Online ticketing;
- ➢ Yield management
- ➢ E-auctions for very last minute available seats
- ➢ Disintermediation and restructuring of agency charge schemes
- ➢ Increasing the productivity of the new channel in electronic distribution

Players like Air Asia, Tiger airways, all classical examples for e-airlines that work on customising the services based on the customers to work out on low cost fares. The electronic mode allows the customers to choose the options on unbundled packages in terms of travel insurance, additional luggage, Food, Choice of seat etc.

The Air Asia Web page displaying the online air ticket information and promotions, the web page contain provisions for checking availability, flight information, cost, etc. These web pages are easy and customer friendly and keeps promoting their e-airline initiatives through news papers, through promotions.
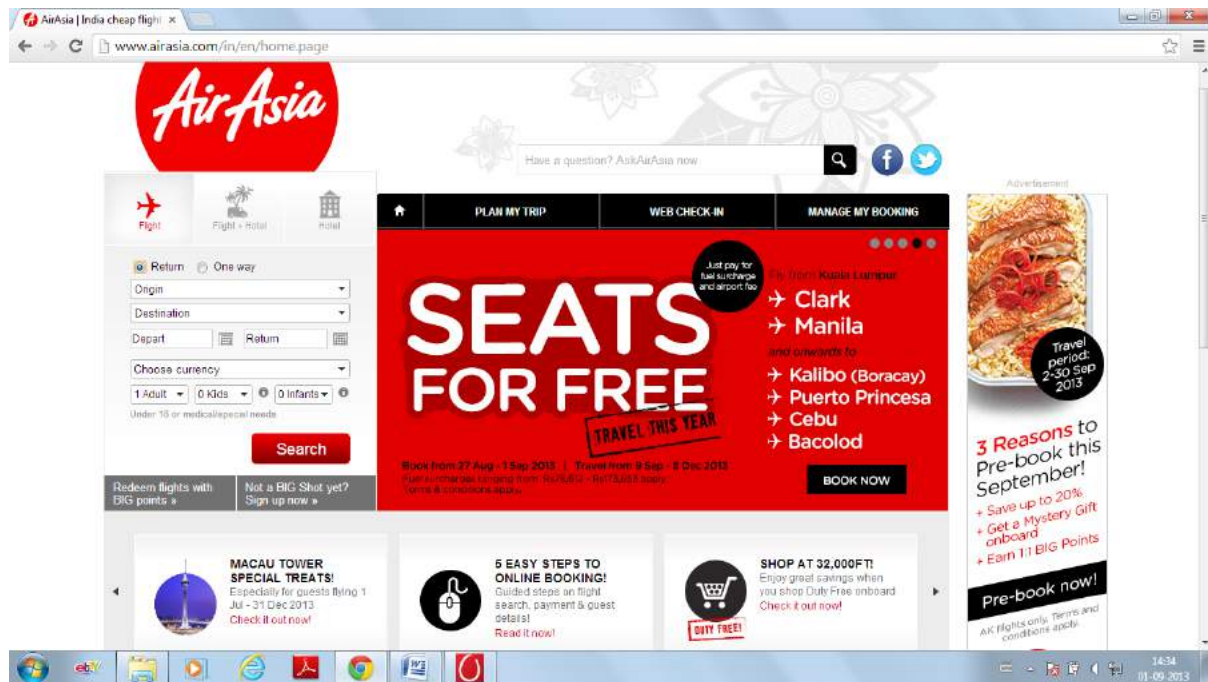
AirAsia– example of an Airline whose business model is powered by the Internet

b. E-Hospitality

      e-hospitality is beyond just distributing, servicing, as it offers more than that by supporting proven hospitality and technology products for the Hospitality Industry. Additionally, **e -Hospitality** offer support and services beyond just that of a front desk system vendor, therefore it is postured to assist properties with all aspects of the front desk and associated guest amenities from the phone system and voice mail to Pay per View (PPV) movies, secure high speed in rooms, lobby kiosks, and even guest printing/faxing from the guest rooms.

      The Web screen shot displayed below (Figure) is a model of e-hospitality system offered by CAPA e-hospitality Inc.

      Hotels use information and communication technology in order to improve their operations, manage their inventory and maximise their profitability. Their systems facilitate both in-house management and distribution through electronic media. 'Property management systems (PMSs)' coordinate front office, sales, planning and operational functions by administrating reservations and managing the hotel inventory. Moreover, PMSs integrate the "back" and "front" of the house management and improve general administration functions such as accounting and finance; marketing research and planning; forecasting and yield management; payroll and personnel; and purchasing. Understandably, hotel chains gain more benefits from PMSs, as they can introduce a unified system for planning, budgeting and controlling and coordinating their properties centrally.
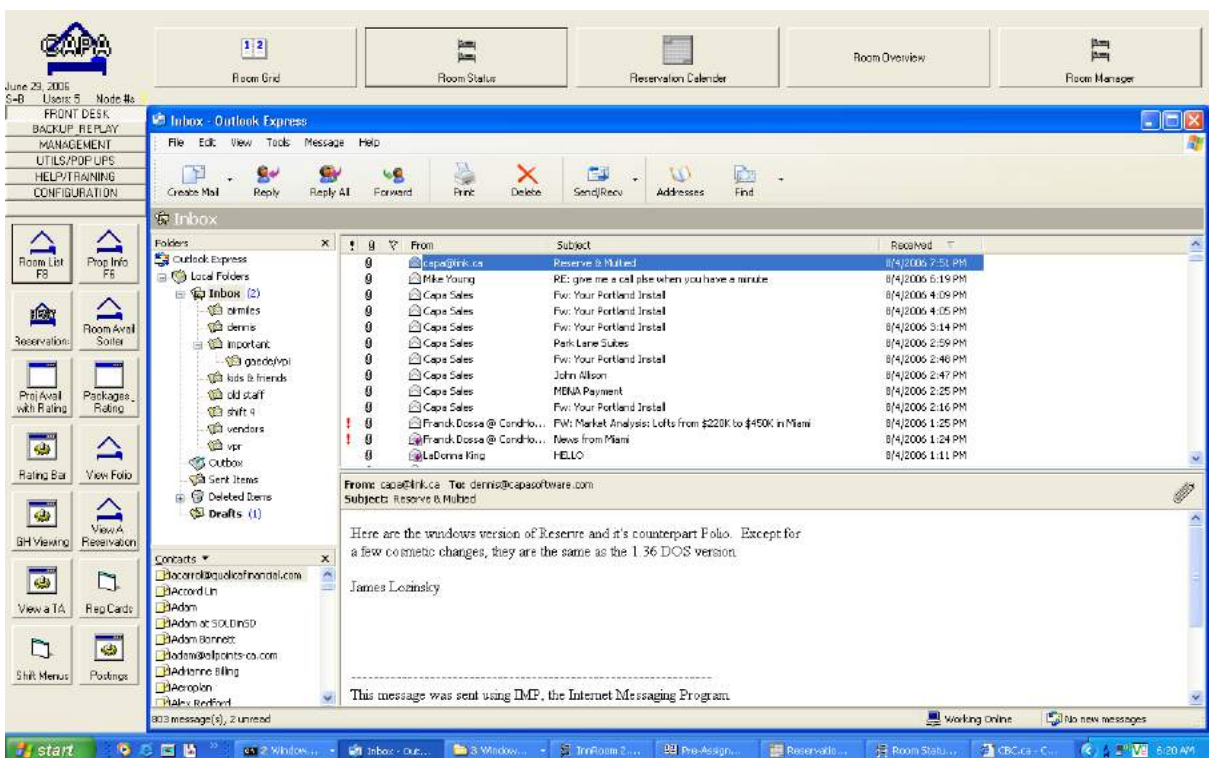
Example - E-hospitality solution

Source: http://www.ehospitalitysystems.com/

Hotels also utilise ICTs and the Internet extensively for their distribution and marketing functions. Global presence is essential in order to enable both individual

customers and the travel trade to access accurate information on availability and to provide easy, efficient, inexpensive and reliable ways of making and confirming reservations.

One of the most promising developments in hospitality is 'application service providers (ASPs)'. ASPs will be increasingly more involved in hosting a number of business applications for hospitality organisations. ASPs are ideal for hotels, especially for smaller- to mid-sized ones, that want to leverage the best vertical and enterprise support applications on the market without having to deal with the technology or pay for more functionality than needed. As they do not have extensive ICT departments and expertise, they can easily access up-to-date applications and benefit from the collective knowledge accumulated by ASP providers without having to invest extensively in technology or expertise building.

The development of the Internet has provided more benefits as it reduces the capital and operational costs required for the representation and promotion of hotels. Hotel websites are a basic requirement to an increasing number of communication and business strategies. The usability of a website, effectiveness of its interface, as well as its amount of information, ease of navigation, and user friendliness of its functions, are central to the success of these strategies and an Automatic Website Evaluation System (AWES) can provide objective and quantitative guidance to website design.

However, many small and medium sized, independent, seasonal and family hotels, find it extremely difficult to utilise communication technology due to financial constraint and lack technological expertise.

c. E-Tour Operators

Leisure travellers often purchase "packages," consisting of charter flights and accommodation, arranged by tour operators. Tour operators tend to pre-book these products and distribute them through brochures displayed in travel agencies. Recent times in India, the tour operators realised the benefits of utilising communication technology in organising, promoting, distributing and coordinating their packages.

Gradually, all major tour operators developed or acquired databases and established electronic links with travel agencies, aiming to reduce their information handling costs and increase the speed of information transfer and retrieval. This improved their productivity and capacity management whilst enhancing their services to agencies and consumers. Tour operators also utilised their CRSs for market intelligence, in order to adjust their supply to demand fluctuations, as well as to monitor the booking progress and productivity of travel agencies.

Webpage of SOTC – Example for e-tour operator

Few players realise the major transformation of the marketplace, while the majority regard communication and information technology as an exclusive facilitator of their current operations, and as a tool to reduce their costs. However, several tour operators in have embraced electronic brochures and developed their online strategies. The electronic mode enables them to concentrate on offering customised packages and allows them to update their brochures regularly.

Although a partial disintermediation seems inevitable, there will always be sufficient market share for tour operators who can add value to the tourism product and deliver innovative, personalised and competitive holiday packages. However, many key players in Indian market have started disintegrating their packages and selling individual components directly to the consumers. In this sense they will be able to re-intermediate, by offering their vast networks of suppliers through their channels.

Innovative tour operators use the Internet extensively to promote their products and to attract direct customers. They also use the Internet to de-compose their packages and sell individual products. Thomson.co.in for example has developed a comprehensive online strategy to provide media rich information on its web site. The company supports podcasting and video casting and also has integrated Goggle Earth geographical information data on its website. It also distributes branded content on a wide range of Internet sites such as youtube.com to attract consumers to its web site and to encourage them to book. It is evident therefore that tour operators that will use technology innovatively will be able to provide value to their clientele and safeguard their position in the marketplace.

d. E-Travel Agencies

Information and communication technology has become a major tool for travel agencies as they provide information and reservation facilities and support the intermediation between consumers and principals. Travel agencies operate various reservation systems, which mainly enable them to check availability and make reservations for tourism products. Until recently GDSs have been critical for business travel agencies to access information and make reservations on scheduled airlines, hotel chains, car rentals and a variety of ancillary services. GDSs help construct complicated itineraries, while they provide up-to-date schedules, prices and availability information, as well as an effective reservation method. In addition, they offered internal management modules integrating the "back office" (accounting, commission monitor, personnel) and "front office" (customers' history, itinerary construction, ticketing and communication with suppliers).

Multiple travel agencies in particular experience more benefits by achieving better coordination and control between their remote branches and headquarters. Transactions can provide invaluable data for financial and operational control as well as for marketing research, which can analyze the market fluctuations and improve tactical decisions.
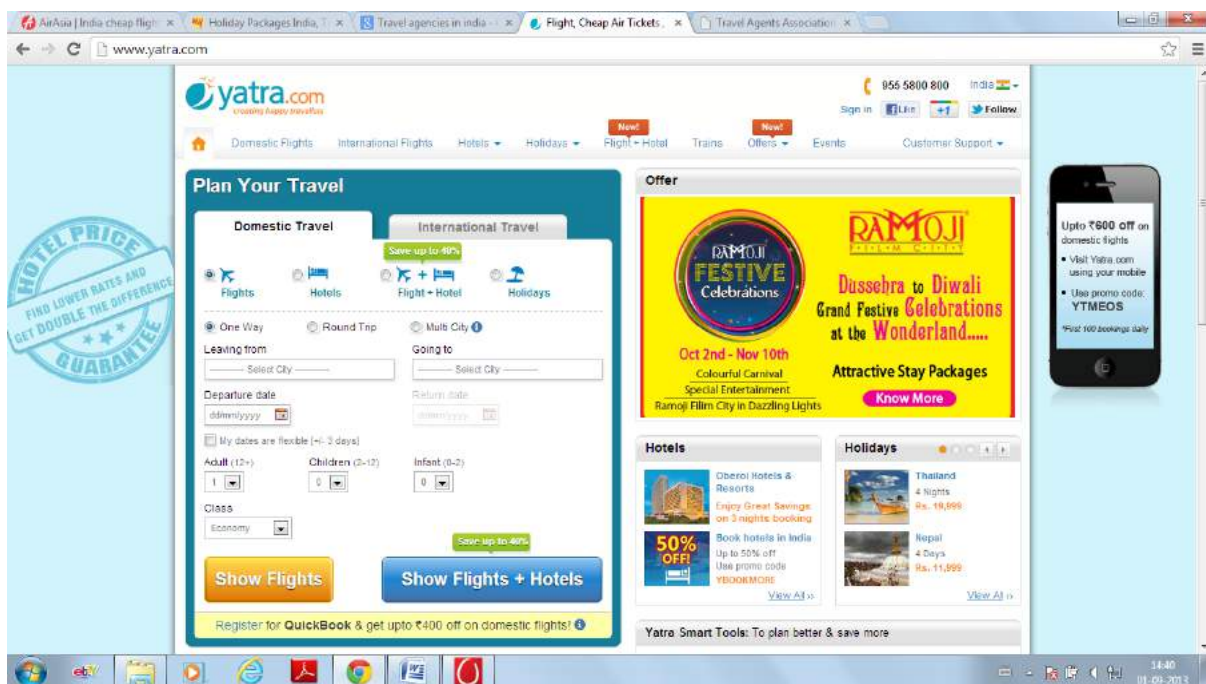
Web page of Yatra.com – example for online travel agency (OTA)

The table (figure) depicts the list of electronic travel agencies and the list of services offered by them online.

**Table showing List of e- travel agencies (services offered) in India**

Online Travel Agency	Services offered					
	Air	Hotel	Car	Bus	Rail	Cruise
Make my trip	√	√	√	√	√	√
Yatra	√	√	√	√	√	√
Clear trip	√	√	√			
Travel guru	√	√				
Travelocity	√	√	√			√
Arzoo	√	√	√			
Travel chacha	√	√	√			
Via World(Flightraja)	√			√		
Trip mela	√	√				
Travel spice	√	√	√			
Air tickets India	√	√	√			
India times Travel	√	√				
Ezeego1	√	√	√	√	√	√
Expedia	√	√	√			
Red Bus				√		
Ticket vala		√	√	√		
Travel Bixee	√	√		√	√	
Thomas Cook	√	√			√	√
Cox & Kings	√	√	√			
Travel-O-Travel	√					
Book my trip	√	√	√			
Cheap Air Tickets	√					
Take off Trip	√					
Prime Travel India	√	√	√			
Travel Mart	√	√	√			
Travel port	√					
Cheap-o-air	√	√	√	√		
Me Go		√				
Journey Mart	√	√	√		√	√
STA Travel	√	√				

e. E-Destinations

Destinations are amalgams of tourism products, facilities and services which compose the total tourism expertise under one brand name. Traditionally the planning, management and coordination functions of destinations have been undertaken by either the public sector (at national, regional or local level) or by partnerships between stakeholders of the local tourism industry.

The screen shot (Figure) is the e-destination webpage that displays the information on various parts of the world and the tourism attraction and travel information for the travellers across the world.
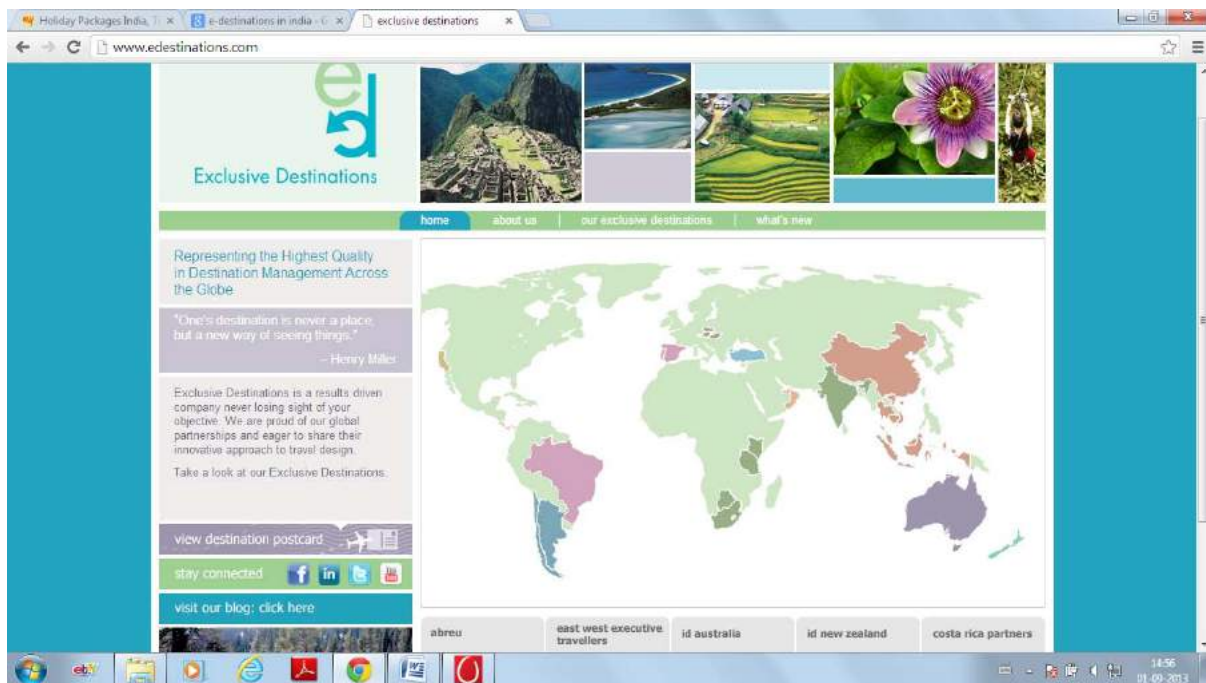
Example of e-destination

Though communication and information technology were never considered as a critical instrument for the development and management of destinations, increasingly 'Regional tourism Organisation' (RTOs) use ICTs in order to facilitate the tourist experience before, during and after the visit, as well as for coordinating all partners involved in the production and delivery of tourism. Thus, not only do RTOs attempt to provide information and accept reservations for local enterprises as well as coordinate their facilities, but they also utilise communication technology to promote their tourism policy, coordinate their operational functions, increase the expenditure of tourists, and boost the multiplier effects in the local economy.

http://www.edestinations.com/DestinationSheets/EDES_India.pdf

The above web link is the classical example for the e-destination. It is electronic file in the website of the tourism organisation those promote their destinations online. The file consists of the details of the locations and attractions of the particular destination. Though it had a slow start in Indian region, currently there are dynamic players in the industry those focus on e-destination efforts.
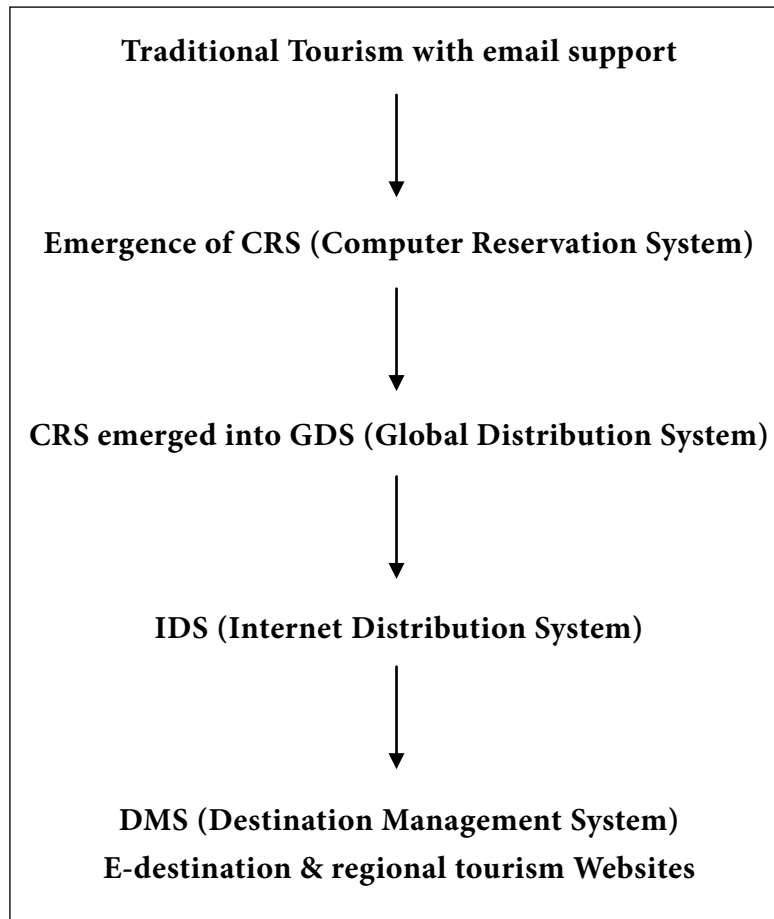

Etoursim-india.com – Example for e destination

The screenshot (Figure) is the e-destination initiatives of the Indian tourism organisation. It consists of e-brochure and pictures apart from reservations and package designing provisions that helps the tourism entities to promote their destinations across the world and also makes it easy for the potential travel to understand and familiar various aspects of the destination before travelling.

Historical Development of Electronic Tourism

The origination of information technology and communication system has a huge impact on the wide range services across Indian market. Tourism is one of the major sectors that embraced information technology to redesign or recreate process and operations that made the industry more attractive and efficient.

But the process of getting diffused into computerised operations and process did not happen overnight. The development of tourism sector that completely work with and around IT took more than decade time. Below mentioned Flow chart explains the major development and transformation of tourism industry.

Traditional Tourism with email support

↓

Emergence of CRS (Computer Reservation System)

↓

CRS emerged into GDS (Global Distribution System)

↓

IDS (Internet Distribution System)

↓

DMS (Destination Management System)
E-destination & regional tourism Websites

Historical Development of e-tourism

The Flow chart (Figure) explains the various main stages of technological developments established Information Technology in tourism enterprises, namely Computer Reservations Systems (CRSs) then another 10 years time Global Distribution Systems (GDSs) came into emergence then later there is an integrated approach called Internet Distribution System (IDS) that utilised electronic media as well as communication technology.

The IDS is an comprehensive system that makes use of both GDS & CRS apart from giving birth to Destination Management system (DMS). Although these technologies emerged with gaps of about 10 years from each other, they currently operate separately as well as jointly, controlling different functions and target markets.

First Stage - 1970s: Computer Reservation Systems (CRSs)

Computerised networks and electronic distribution in tourism emerged in the early 1970s, through internal CRSs. They became the core of the distribution mix and strategy of airlines. CRSs are widely regarded as the critical initiators of the electronic age, as they formulated a new travel marketing and distribution system. A CRS is essentially a database which manages the inventory of a tourism enterprise, whilst it distributes it electronically to remote sales offices and external partners. Intermediaries and consumers can access the inventory and they can make and confirm reservations.

The rapid growth of both demand and supply, as well as the deregulation of the air transportation demonstrated that the tourism inventory could only be managed by powerful computerised systems. Airlines pioneered this technology, although hotel chains and tour operators followed by developing CRSs. CRSs enable principals to control, promote and sell their products globally, while facilitating their yield management. In addition, they integrate the entire range of business functions, and thus can contribute to principals' profitability and long term prosperity. CRSs often charge competitive commission rates in comparison with other distribution options, whilst enabling flexible pricing and capacity alterations in order to adjust supply to demand fluctuations. CRSs also reduce communication costs, while providing intelligence information on demand patterns or the position of partners and competitors. Hence, CRSs contribute enormously to both the operational and strategic management of the industry.

Second Stage – 1980s: Global Distribution Systems (GDSs)

GDS originally stem from the Airline Industry. With the start of commercial flights, the airlines needed a system that would allow travel agents to make reservations for flights. Initially the airline CRS developed into GDSs by gradually expanding their geographical coverage as well as by integrating both horizontally, with other airline systems, and vertically by incorporating the entire range of principals, such as accommodation, car rentals, train and ferry ticketing, entertainment and other provisions. Later GDSs emerged as the major driver of ICTs, as well as the backbone of the tourism industry and the single most important facilitator of ICTs globalisation. It matured from their original development as airline CRSs to travel supermarkets.

Ever since its origination it has emerged as business specialising in travel distribution.Airline computer reservations systems emerged to become global distribution systems (GDSs). In order to avoid over-lappings, principals integrated their CRSs with GDSs, by developing interfaces. Several companies emerged to facilitate interconnectivity.

This enabled the display and purchasing of the majority of tourism products on-line. As GDSs connect most tourism organisations with intermediaries around the world, they lead the standardisation processes and control a considerable market share. GDSs emerged as the "circulation system" or the "backbone" of the industry by establishing a global communication standard and a new tourism electronic distribution channel. Evidently GDSs became businesses in their own right, as they changed their nature from tools for vendor airlines and accommodation corporations, to "electronic travel supermarkets" and strategic business units for their corporations.

Third Stage –since the last decade of the 20th century:

Third Stage –since the last decade of the 20th century:
**IDS (Internet Distribution system)& DMS (Destination management systems)**

These are the *virtual* or *online* travel agents. They are different from GDS as IDS also makes use of GDS. A travel agent with a walk-in office around the corner uses a GDS, the IDS are those portals that allow hotel reservations online. The virtual travel agency operate through IRD that offers all the services of tourism sector at one stroke with the ability to customise or choose between the ranges of service option that suits the requirement of the customers.

At present Indian tourism sector is supported by strong online travel agents like Expedia.co.in, tripadvicor,in, makemytrip.com, Travelocity.co.in, etc. They are able to support the Indian tour travel industry through their online presence that attracts huge number of clients across the country at regular basis.

These virtual travel agents offer services that range from smallest need to the largest requirement and offers wide range of packages that covers everything that is needed for tourism consumption. The screenshot of expedio.co.in, one of the most familiar virtual travel agent.

The virtual travel organisation through IDS co-ordinates and utilises GDS and CRS to offer the required services that are booked through web. This reduces the cost of distribution as it does not require physical settings and can be unbundled accordingly.

The Web screen shot (Figure) of the Expedia.com are the classical example for IDS. They on the well renowned virtual travel agent, that offers wide range of travel and tourism related services to the customers in India and abroad. The webpage (Figure) of Expedia shows offers and information related to the travel arrangements and tour packages that allow customers to book and interact with the agent online.
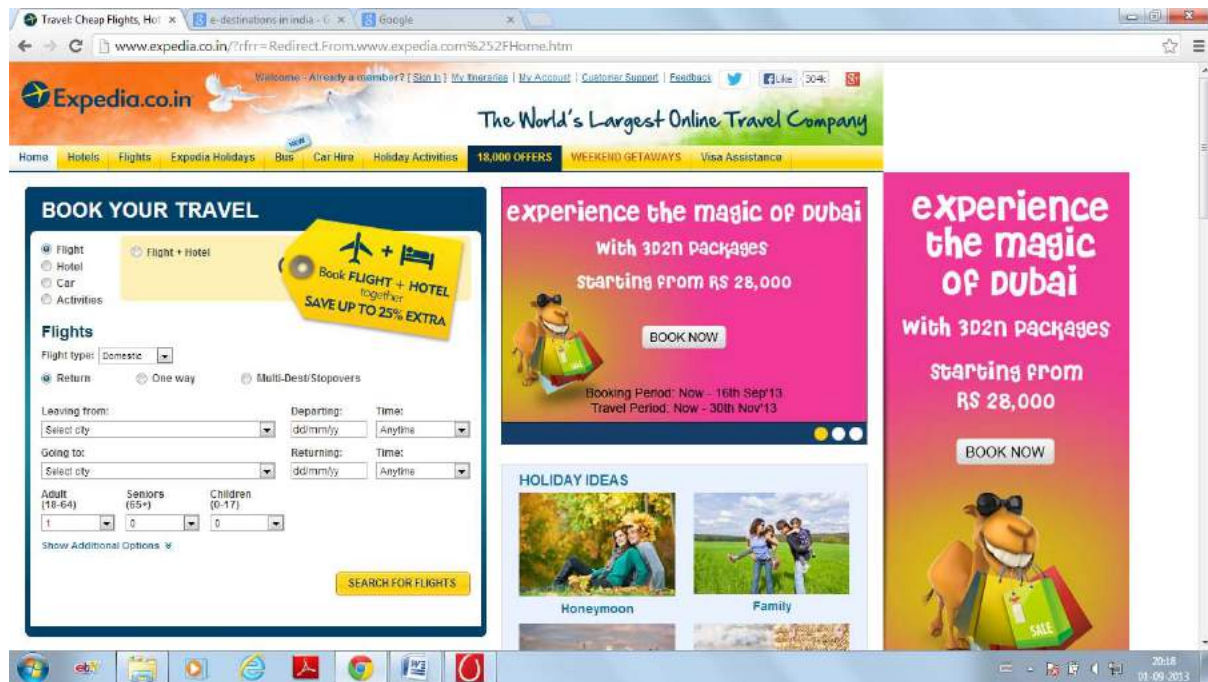
Webpage of Expedia.co.in – Example of IDS (Virtual travel agent)

(DMS) then emerged

The basic version of DMS consists of Product Database, Customer Database and a mechanism connecting the two. Not only DMSs enable coordination of whole range of products and services offered by the local suppliers and promote them on the global scale but also allow travellers to create a personal destination experience. The DMS tries to focus on following aspects:

➢ Provide information and undertake some marketing activities through mass media advertising;

➢ Provide advisory service for consumers and the travel trade;

➢ Design and distribute brochures, leaflets and guides; and

➢ Coordinate local initiatives.

- Information on locally available attractions and products

- Useful for helping to overcome seasonality problems by spreading and balancing tourism demand

The key element of destination management should be a partnership involving central andlocal government, local communities and all parties involved in the provision of tourism services.

Specifically, these would be: governmental and non-governmental tourism promotion agencies; destination management organisations (DMOs); local and international tourism service providers; domestic and international travel agents; global distribution systems (GDSs); travel portals; and the information and communication technology (ICT) sector.

Electronic Technology for Data Processing and Communication

Electronic capabilities are a subset of the overall e-business strategy of the company; enable companies to link their internal and external data processing systems more efficiently and flexibly.

A business travel process management application for corporate customers: Most companies around the world look critically at their business travel management processes. The goal is double: to use process redesign methodologies to streamline these processes and lower their cost (sometimes, processing an airline ticket request or a cash advance costs more) on one side, and leverage technology, enforce policies and start collecting consolidated data on travel management in order to negotiate future discounts with suppliers on the other side.. The workflow system would be used internally to circulate travel requests and expense reports around the company, collecting the required authorizations and feeding automated statistics collecting systems. The system would allow for the general specification of the required trip (time, place and specific constraints). Connections to external partners would be used to send completed requests to a travel agency. Based on each traveller's profile and on the company's policy, the agency would then fill in the details (specific place, rental car type and company, etc.) and pass the actual reservations and orders.

It is obvious that with the development of such automated systems, intermediaries such as travel agencies will find their added value increasingly harder to justify. With the increasing intelligence of travel systems, they will be able to contact the suppliers systems directly and book segments without needing a travel agency. Printing the tickets will not be necessary anymore as the trend towards ticketless travel expands. The supplier's system will return confirmation numbers that will be used to print a trip confirmation on any printer. Such automation will be driven by the trend towards the reduction of distribution costs: it is currently the third cost in order of importance for airline companies, and the most easily targeted. The current commission cap in the United States is a proof of that trend. The expense reporting part will also be automated through the same facilities. The credit card institutions will increasingly deliver their credit charge data through automated delivery channels, and the downloaded charge data will form the basis for the fulfilment of an expense report. The travel management system will complete it, and include recurrent charges (such as the private car trip to the airport and parking) before triggering the

workflow system to circulate the expense report for approval. Once approved, a link with the internal accounting system will make sure the credit card company or the traveller is reimbursed.

Electronic systems used in tourism are split in two categories: front-office and those which use the Internet.

Front-office systems: Are used to process data and offer written or visual reports, and are present in both the medium and large receiving structures, as well as in tourism agencies. They register the tourists and manage the accommodation, retail the products and manage the income. Two of such systems are Fidelio and SITEL, applications that deal with complex services: spare time management, profit growth, billing, mailing and tourist arrivals and departures.

E-systems for booking: They can be operative for both individual tourists as well as for agencies, by encompassing the selling, informing and informing functions. Their modular structure allows them to connect the sectors of ticketing, outgoing, incoming and internal with accounting and financial sectors from the receiving structures or from the agencies. Amongst other things, they can also allow the shipping and receiving of data from and to the global distribution systems, such as World span and Amadeus.

Conclusion

The emergence of Information technology has transformed the tourism and travel industry beyond comprehension. ICT has made the industry more competitive and attractive to both customers and services providers apart from other stake holders and distribution partners. Indian tourism market was able to adapt to the ICT interference and they understood the global competition and growing demand for the e-tourism in the other countries. The tourism merged with IT in the early stage when Computer Reservations Systems (CRSs) came into existence, then in another 10 years time, with Global Distribution Systems (GDSs), and finally an integrated approach called Internet Distribution System (IDS) that utilised electronic media as well as communication technology evolved. Electronic tourism comprises of e-airlines, e-travel agencies, e-hospitality management e-tour operators and e-destinations. Today the tourism market is rapidly changing and is looking continuously grow and change business and the process that will increase the efficiency of the tourism consumption.

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Lesson 1.2 - Use of IT in Tourism

Learning Objectives

After reading this unit, the learners should be able to

➢ Understand the use of information technology in the Indian tourism scenario

➢ Gain knowledge on the impact of ICT on the Tourism industry structure

➢ Appreciate the use of ICT at strategic, tactical and operational levels of tourism players

➢ Know the impact of electronic mode of tourism on customers &businesses.

Introduction

Tourism is an information-intensive industry in which electronic commerce is expected to play a significant role. The application of e-commerce by business and consumers in the industry raises a variety of issues regarding the impact on the industry as a whole and on developing countries in particular. Exchange of information is very important at every stage in the tourism services. The Information should flow quickly and accurately between the client, intermediaries and each of the tourism suppliers involved in servicing the client's needs. As a result, ICT has become an almost universal feature of the tourism industry. Its power allows information to be managed more effectively, and transported worldwide almost instantly. Information and Communication technology has a major effect on the methods of operation of the tourism industry. However, it has not affected all functions and sectors equally. It is having the greatest impact on the marketing and distribution functions, while leaving others which need more human contact relatively untouched. Similarly certain sectors, such as the airlines, have been keen adopters of technology, using it to help to manage and streamline their operations and to gain strategic advantage. In India hotel sector, have been less enthusiastic, but are gradually waking up to the benefits which electronic distribution can bring. However, given the way in which IT is reshaping the basic structure of both commerce and society in general, and consumers' increased demand for information, its importance to the success of a tourism enterprise can only grow in the future. As a result, tourism enterprises need to understand, incorporate and utilize IT strategically in order to serve their target markets, improve their efficiency, maximize profitability, enhance services and maintain long-term profitability.

Adoption and use of ICT in Indian Tourism

Historical View

Prior to 1995, when internet access wasn't readily available in India, a potential inbound tourist(from abroad), had to depend on printed brochures from Indian embassies abroad, a few published guides(e.g., Lonely Planet) and feedback from those tourists who had visited India before. Domestic tourists used to decide their travel itineraries largely based on tourism related articles published in select, local language, monthly magazines during vacation period (i.e., in summer and winter). Sparingly, brochures available at state tourism department offices and feedback from relatives, or presence of some relatives nearer to the tourist destinations, paved the way for a short trip to the relatives along with tourism objective getting fulfilled. Internet access came to India in August 1995, courtesy VSNL. Though one intuitively understood its importance, internet access was minimally used. A lack of ICT knowledge and a general fear of technology kept people away from its adoption. But, lately, with an increase in broadband internet penetration in Indian homes, people are getting use to visiting websites to look for information.

The ICT has revolutionised all business processes in India, the entire value chain as well as the strategic relationships of tourism organisations with all their stakeholders. It has taken advantage of intranets for reorganising internal processes, extranets for developing transactions with trusted partners and the Internet for the interacting with all its stakeholders

Most of the government departments (including tourism departments) took about five years, to become computer savvy and be able to host, and, more importantly, maintain their departmental websites. The ministry of tourism annual report 2007-08, under its two IT initiative,

(i) Has provided computers to its officers up to the level of Asst. Directors, internet and email access and project monitoring systems to officers for quick disposal of information and other works, and

(ii) Providing quality tourist information, facilitation and services to the tourists, tourism promotional agencies, media and others in India and abroad.

Currently, http://www.incredibleindia.org serves as the main promotional portal of the Ministry of Tourism, and http://tourism.gov.in/ (or http://www.tourism.nic.in/) provides all the organizational activities/ policies of the Ministry of Tourism.

The Internet Impact on the Tourism Industry Structure

The advent of the Internet in the late 1990s has had a strong impact on the tourism and hospitality industry. It is due to the fragmentation of the hotel industry, which makes the Internet ideal for selling inventory online. The Internet as a channel of distribution has become one of the most successful channels used by consumers to research travel options, compare prices and make reservations for airline tickets, hotel rooms and car rental. Therefore, the provision of online travel services is the single most successful B2C segment on the Internet. Apart from accommodations, flights and car rentals, the growth of travel offerings on the Internet now include vacation packages, cruises, events, tours and attractions. In fact, there is a gradual shift among travel technology vendors to move beyond accommodations, flights and car rentals to encompass cruises, destinations and others.

Tourism and travel industry has shown how e-commerce may change the structure of an industry and the way business is done. Whereas in other industries there is a stronger hold on traditional processes, the tourism industry is witnessing an acceptance of e-commerce to the extent that the structure of the industry is changing. Figure shows the way traditional structure operated prior to the emergence of information and communication technology. Diagram (Figure) shows that the tourisms existed without internet, but offering very less information and empowerment to the consumers and also offering very less distribution point as they have to completely rely on physical retail points for information as well as the bookings.

Producers	Intermediaries		Consumers
Hotels	**Hotel Chains**		
Restaurants	**Tour Operators**		
Airlines		**Travel Agent**	Tourists
Provisions	**CRS/GDS***		
Recreation			
	Tourism Industry Association		
		DMOs	

Traditional tourism structure(without internet)
Source: UNCTAD (2000)

The Internet-enabled tourism industry respectively (Figure) shows that customers were empowered with lots of information and empowered more than the traditional tourism structure as they have multiple source and access points to plan and consume tourism services. It is observed from the structures of traditional (Figure) and internet based tourism industries (Figure) that the dis-intermediation and re-intermediation (in the form of infomediaries) have caused the fundamental structural changes.
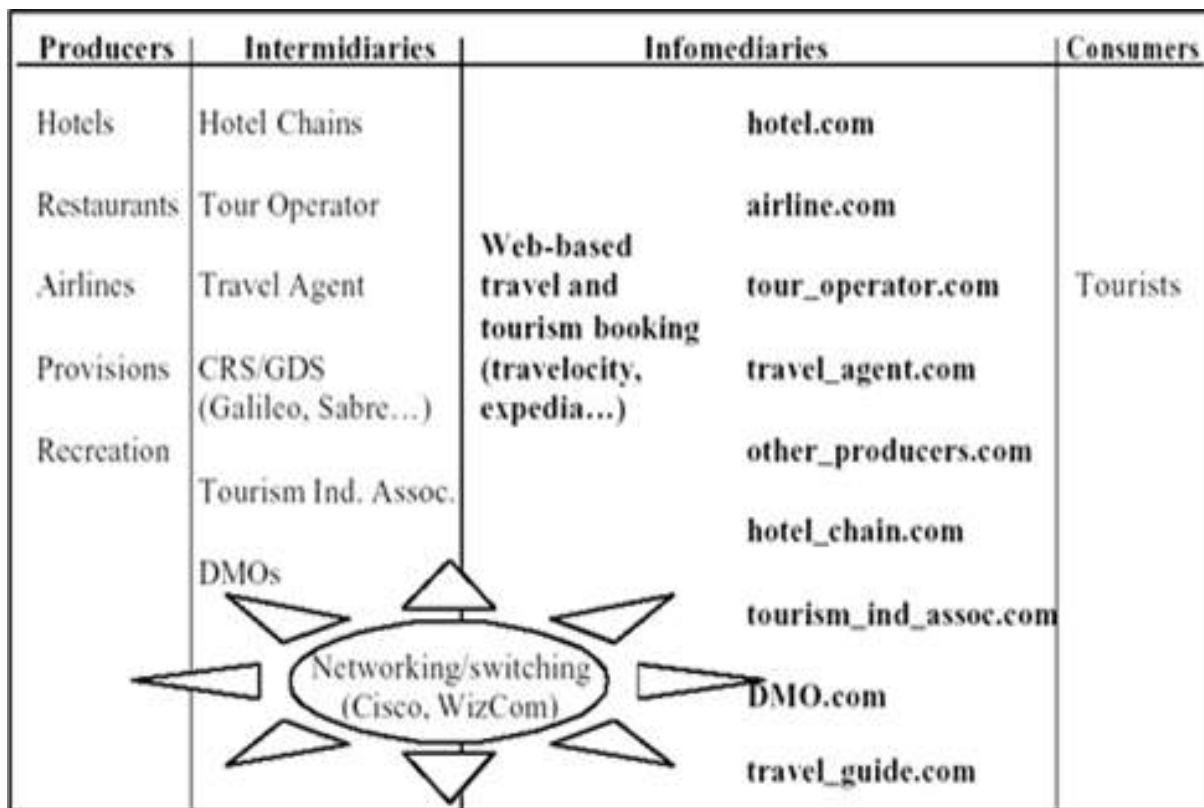
Internet-enabled tourism
Source: UNCTAD (2000)

The above figure describes the pre-Internet and Internet-enabled tourism industry respectively. Dis-intermediation and re-intermediation (in the form of infomediaries) have caused the major structural changes.

The Internet Impact on the Providers

Buhalis and Jun (2011) noted that Internet and ICTs have enabled tourism organisations to develop their processes and adapt their management to take advantage of the emerging digital tools and mechanisms to:

➢ Increase their internal efficiency and manage their capacity and yields better. For example an airline's reservations system allows the company to manage their

inventory more efficiently and the managers to increase occupancy levels. They also incorporate sophisticated yield management systems that support organisations to adjust their pricing to demand fluctuations in order to maximise their profitability.

➢ Interact effectively with consumers and personalise the product. For example, British Airways has launched the Customer Enabled strategy to enable passengers to undertake a number of processes, including booking, ticketing, check-in and seat and meal selection, from the convenience of their computer.

➢ Revolutionise tourism intermediation and increase the points of sale. For example, Expedia, Travelocity, Lastminute, Orbitz and Opodo have emerged as some of the most dominant global electronic travel agencies, offering an one-stop-shop for consumers.

➢ Empower consumers to communicate with other consumers. For example www. tripadvisor.com, www.virtualtourist.com or www.igougo.com supports the exchange of destination information and tips, whilst www.untied.com or www.alitaliasucks. com enables dissatisfied customers to make their views available.

➢ Provide Location Based Services by incorporating data, content and multimedia information on Google Maps and Google Earth.

➢ Support efficient cooperation between partners in the value system. For example Pegasus enables independent hotels to distribute their availability through their web sites and other partners online whilst an extranet allows hoteliers to constantly change availability and pricing.

➢ Enhance the operational and geographic scope by offering strategic tools for global expansion

Strategic, Tactical and Operational use of IT in Tourism

Information technologies (ITs) prevail in all functions of strategic and operational management. As information is the lifeblood of tourism, ITs provide both opportunities and challenges for the industry. Despite the uncertainty experienced in the development of ITs in tourism, the 'only constant will be change'. Increasingly, organizations and destinations, which need to compete, will be forced to computerise. Unless the current tourism industry improves its competitiveness, by utilizing the emerging ITs and innovative management methods, there is a danger for exogenous players to enter the marketplace, jeopardizing the position of the existing ones. Only creative and innovative suppliers will be able to survive the competition in the new millennium.Information technology can be strategically used by the players and partners of the tourism industry to not only make the process efficient

and gain competitive advantage but also supports in customising the services based on the customer requirements.

At the tactical stage, it includes e-commerce and relates information technology for increasing the efficiency and effectiveness of the tourism related business enterprises. At the strategic point of view, the e-tourism transforms all business processes, the whole value chain as well as the strategic integration of tourism players with all their stakeholders. The electronic form of tourism concept includes all business functions as well as e-strategy, e-planning and e-management for all areas of the tourism related business hospitality, principals, intermediaries, like travel, transport, leisure and public sector organisations.

a. **Information Technology (IT) as a Business Tool**

The enhancements in ITs' processing power in the last decade revolutionise their capabilities as they constantly increase computing speed; decrease equipment size; reduce hardware and software costs; and improve the reliability, compatibility and inter-connectivity of numerous terminals and applications. A great degree of innovation is incorporated in hardware, software and network developments, whilst intellect becomes a critical asset in ITs' management. Paradoxically, the more powerful and complicated ITs become, the more user-friendly and inexpensive they are, enabling more people and organisations to take advantage. Today, computers have become familiar part of the business environment as telephones were in the past. The emergent information society and the knowledge-based economic powers will therefore redefine the ability of regions and enterprises to prosper in the new millennium. Inevitably the tourism industry is also affected by the technological revolution. Both tourism destinations and enterprises increasingly need to adopt innovative methods and to enhance their competitiveness. On the demand side, the new, sophisticated, knowledgeable and demanding consumer increasingly becomes familiar with the emergent ITs and requires flexible, specialised, accessible, interactive products and communication with principals. Hence, new best management practices emerge, taking advantage of the ITs revolution and re-engineering the entire business processes of the industry.

b. **Information and Communication Technology as Means to Competitiveness**

The fusion of ITs provides unprecedented tools, which facilitate the creation of new industries, restructure existing industries and radically change the way firms and regions compete. ITs reshape the nature of competition in most economic activities, whilst they link consumers and suppliers, adding value to organizations' products. In particular, technology affects competitive advantage as it determines the relative cost position or differentiation of organizations. A firm can achieve several strategic benefits by using ITs, namely: establishing

entry barriers; affecting switching costs; differentiating products/services; limiting access to distribution channels; ensuring competitive pricing; decreasing supply costs and easing supply; increasing cost efficiency; using information as a product itself; and building closer relationships with suppliers and customers.

Hence, ITs offer new management and business opportunities and can be applied strategically in at least four different ways: gain a competitive advantage; improve productivity and performance; facilitate new ways of managing and organising; and develop new businesses. Ultimately, firms investing in ITs attempt to gain a competitive advantage by lowering their cost or by improving customers' perception about the quality of their products and services, and hence differentiating their offering.Despite the potential benefits, ITs do not guarantee profitability and they may even worsen the competitive position of firms and the attractiveness of an industry. There is also a debate on whether ITs-originated competitive advantage can be sustained, as investments in technology are often matched by competitors.

However, ignoring and under-utilising ITs could be disastrous as it would create strategic vulnerability and competitive disadvantage. ITs can be fruitful, only if certain prerequisites are satisfied, namely: long term planning and strategy; innovative business processes re-engineering; top management commitment; and training throughout the hierarchy. Their usage has to be coupled with the re-engineering of all business processes as well as with a redesign of organisational structures and control systems. Perhaps the greatest challenge is to identify and train managers who will be effective and innovative users of ITs and would lead technology-based decision making towards quantifiable gains and advantages. Intellect, therefore, becomes one of the major assets of organisations, while continuous education and training are the only methods to develop and maintain this asset. Provided that rational and innovative planning and management is exercised constantly and consistently, ITs can support the success of organisations.

c. **Information Technology as a Key to Satisfying the Tourism Demands**

WTO (1998) confronts in its guidelines that the key to success rests in the quick identification of consumer needs and in reaching potential clients with comprehensive, personalised and up-to-date information. The rapid growth of both the volume and the quality requirements of contemporary travellers, require powerful ITs for the administration of the expanding traffic. Tourists become sophisticated and more demanding, requesting high quality products and value for their money. Thus, destinations and principals need new methods to serve the new types of demand. The usage of ITs in the industry is driven by both the development of the size and complexity of tourism demand, as well as by

the rapid expansion and sophistication of new tourism products, which address mini-market segments. Increasingly, new, experienced, sophisticated, demanding travellers seek information about more exotic destinations and authentic experiences, as well as require interacting with suppliers in order to satisfy their specific needs and wishes.

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 marketplace. Increasingly, ITs enable travellers to access reliable and accurate information as well as to undertake reservations in a fraction of time, cost and inconvenience required by conventional methods. ITs improve the service quality and contribute to higher guest/traveller satisfaction. Customer satisfaction depends highly on the accuracy and comprehensiveness of specific information on destinations' accessibility, facilities, attractions and activities. This is because the gap between consumers' expectations and perceived experiences is smaller and thus, unpleasant surprises from the destination or principals are minimised. In addition, several other ITs facilitated factors enhance consumer satisfaction, namely: consumers have more information and enjoy a greater choice; a reduction of the bureaucracy and paper-work effectively frees time for customer service; customising the product and establishing personal marketing by using intelligence collected by loyalty schemes (e.g. dietary requirements, product preferences); providing new services, (e.g. as in-flight or in-room entertainment and information channels); facilitating operational tasks (e.g. in-room TV checkout) ; personalised services (e.g. telephone operator acknowledges guest by his name); and finally better integration of departments and functions of organisations towards better service.

The information technology through CRS and providers satisfy the needs of consumer for convenient access to transparent and easy to compare information. They cover the entire variety of choices of travel, lodging and leisure services, destinations, holiday packages, as well as display the actual prices and availability of such services. These services also provide immediate confirmation and speedy documentation of reservations, allowing a greater degree of flexibility and enabling prospective travellers to book at the last minute. Experienced travellers are therefore empowered by information and booking systems and increase their personal efficiency by creating tailor-made products independently. ITs also assist principals to understand consumer needs through marketing research and loyalty/ partnership schemes. Improved access to information covering all aspects of tourist activities provides the framework for offering personalised services at price levels comparable to those of standard packages.

The revolutionary developments in ITs, which have been experienced through the proliferation of the Internet and the World Wide Web since 1995, illustrate that consumers

increasingly rely on the Internet for travel information. They utilise commercial and non-commercial Internet sites for planning, searching, purchasing and amending their travel. Non-tourism organisations tend to seize the emergent opportunity by utilising the ITs tools.
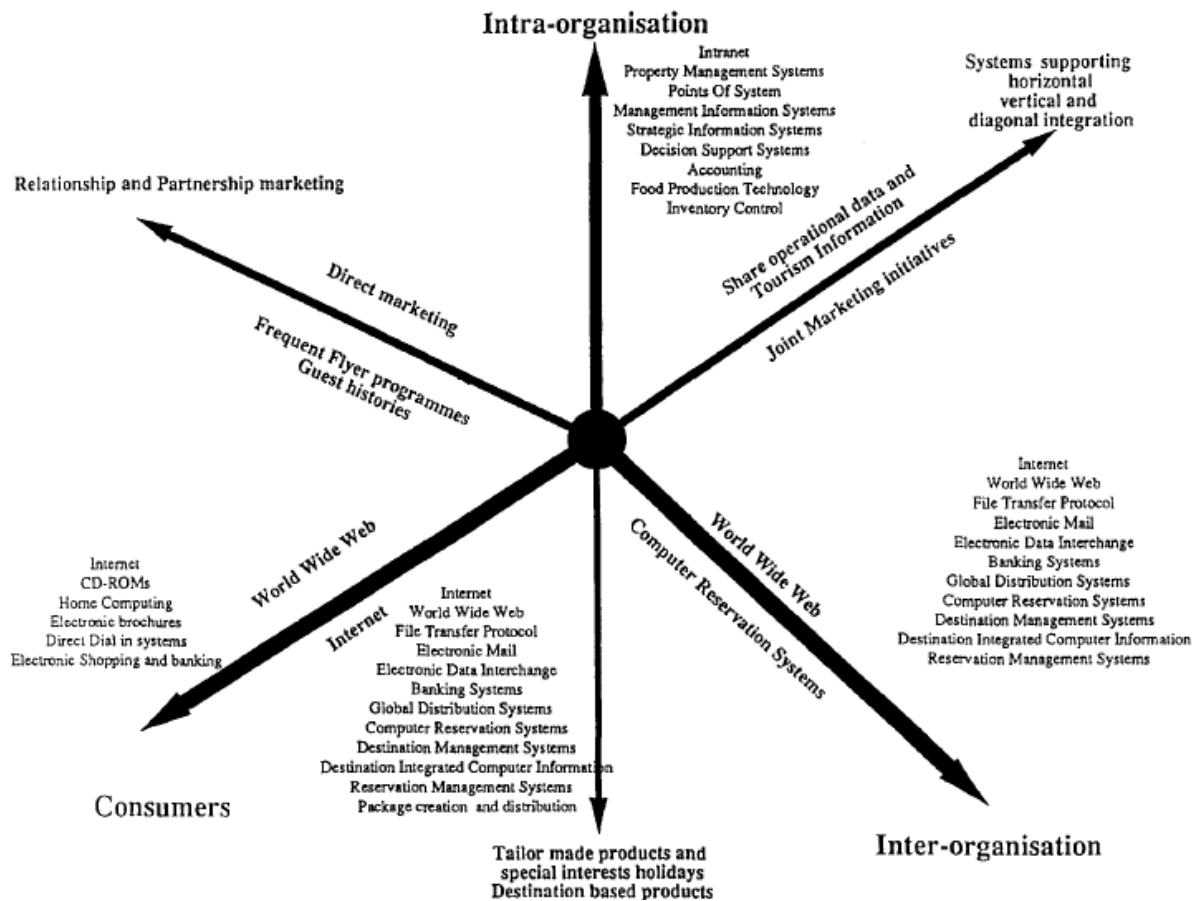
d. IT as a Driver to Re-Engineer the Production and Distribution of Tourism

The impact of IT is evident in the tourism production, marketing, distribution and operational functions of both the private and public sectors. It has also boosted the staff morale, managerial effectiveness, productivity and ultimately profitability of tourism organisation. In particular, ITs have pivotal implications for the distribution channel, as they introduce unprecedented and innovative methods. Distribution is one of the few elements of the marketing mix, which can still enable tourism enterprises to improve their competitiveness and performance. Distributing the right marketing mix, to the right segments, through the right intermediaries, will be instrumental for the long-term success of principals. ITs not only facilitate distribution, but they also enable differentiation and/or cost advantage, as well as empower interactive communication between principals and target markets.

This is accomplished by reengineering the entire processes of producing and delivering products, in order to optimise efficiency and productivity, and to maximise the value-added provided to consumers. The evolution of ITs demonstrated that destinations and principals will be unable to compete effectively, unless they were able to promote themselves in the emergent electronic distribution channels. IT has transformed distribution to an electronic marketplace, where access to information and ubiquity is achieved, while interactivity between principals and consumers is empowered. The emergence of technology into tourism sector has given birth to three major systems: CRS, GDS and IDS. These systems has made a big difference to the tourism sector and brought in changes that transformed tourism market an attractive and customer friendly. Although these technologies emerged in different era's they currently operate both separately and jointly, controlling different functions and target markets.

Buhali's (1996) Multi-Dimensional Framework – Strategic use of IT in Tourism

Buhali offered and multi-dimensional framework that synthesises the conceptual of the usage of ITs in business strategy and in tourism demand and supply. This framework is a systematic projection of the use of Information Technology in tourism and to illustrate all strategic implications for the industry. The diagram (Figure) demonstrates the multi-dimensional character of the framework, as well as the technologies it utilises in order to perform its business functions.

Intra-organisation

Systems supporting
horizontal
vertical and
diagonal integration

Intranet
Property Management Systems
Points Of System
Management Information Systems
Strategic Information Systems
Decision Support Systems
Accounting
Food Production Technology
Inventory Control

Relationship and Partnership marketing

Direct marketing

Frequent Flyer programmes
Guest histories

Share operational data and
Tourism Information

Joint Marketing initiatives

World Wide Web

World Wide Web

Computer Reservation Systems

Internet

Internet
CD-ROMs
Home Computing
Electronic brochures
Direct Dial in systems
Electronic Shopping and banking

Internet
World Wide Web
File Transfer Protocol
Electronic Mail
Electronic Data Interchange
Banking Systems
Global Distribution Systems
Computer Reservation Systems
Destination Management Systems
Destination Integrated Computer Informati
Reservation Management Systems
Package creation and distribution

Internet
World Wide Web
File Transfer Protocol
Electronic Mail
Electronic Data Interchange
Banking Systems
Global Distribution Systems
Computer Reservation Systems
Destination Management Systems
Destination Integrated Computer Information
Reservation Management Systems

Consumers

Tailor made products and
special interests holidays
Destination based products

Inter-organisation

Bhuhali's Framework for strategic use of IT in tourism
Source: Buhalis, (1996) p.133

The diagram above demonstrates the multi-dimensional character of the framework, as well as the technologies it utilizes in order to perform its business functions. The ability of principals and destinations to use this framework effectively will increasingly determine their future competitiveness. The business process re-engineering experienced, which effectively reshape the tourism industry. Its propel changes in several directions between the three main axes. The combinations originated illustrate how strategic marketing and management can be utilized in order to achieve mutual benefits for all stakeholders in a tourism value-added production chain. ICT based integration of industry members is therefore inevitable and is expected to dominate the industry in the near future.

Intra-Organizational Functions

ITs enhance a number of intra-organizational processes, by supporting a certain level of integration between various functions within organizations; typically the 'front' and 'back' office. The aim is to increase efficiency and productivity, as well as to enhance the strategic and operational management of the enterprise. Examples from the tourism industry include property management systems or information systems in hotels; integrated points of sales systems; management and strategic information systems; accounting and payroll

systems; food framework incorporates the paradigm shift and production technology; inventory control for tour Operators, transportation companies and other principals. Intranet technology facilitates an internal network by deploying the same technology and presentation tools as the Internet, but restricting access to authorized personnel only. The future growth of intranets will be rapid. For years 'managers have been looking for a better way to deliver information within the organization; now almost overnight the web has opened the door'.

Example: Intra-Organisational Functions

a. Within a tourism organisation

> Strategic planning

> Competition analysis

> Financial planning and control

> Marketing research

> Marketing strategy & implementation

> Pricing decision and tactics

> Middle term planning & feedback management

> Statistics/reports operational control

> Management functions

b. Communication between departments

> Networking & information exchange

> Co-ordination of staff

> Operational planning

> Accounting/billing

> Payroll

> Supplies management

c. Communication and function with branches

> Co-ordination of operations

> Availability/prices/information

> Orders from headquarters/administration

> Share of common resource

> Databases for customer and operational information

Inter-Organizational Functions

Networking supports the communication and facilitates interconnectivity between individual organizations. Hence a number of systems and applications emerge to assist com-

munications between tourism enterprises. Electronic Data Interchange enables the transfer of structured data from computer to computer (often hosted by different and remote organizations) using agreed communication standards. This has been extensively utilized between tour operators and handling agencies at destinations to transfer passenger lists, invoices and other paper work. Computer Reservations Systems and Global Distribution Systems are also applications which empower communication between travel agencies and principals such as airlines, hotels and car rental firms.

In addition, Destination Management Systems and Destination Integrated Computer Information Reservation Management Systems attempt to integrate the management and marketing of independent tourism enterprises at the destination area and thus facilitate interconnectivity. In particular, small and medium sized tourism enterprises will benefit from ITs-supported networking as they will be able to pool their resources and compete with their larger counterparts. Electronic Mail, the World Wide Web, the File Transfer Protocol are some of the most popular uses of the Internet which empower interconnectivity and communication between organizations and individuals. Moreover, Extranets emerge to provide a secured interface for networked enterprises. Using Internet technology Extranets facilitate a restricted access and interconnectivity to authorized organizations only, and thus, they facilitate the networking of tourism enterprises.

Example: Intra-Organisational Functions

Tourist product suppliers and intermediaries

a. Pre-travel arrangements

- ➢ General information
- ➢ Availability/prices inquiries
- ➢ Negotiations and bargaining
- ➢ Reservations & confirmations
- ➢ Ancillary services

b. Travel related documentation

- ➢ Lists of groups/visitors
- ➢ Receipts/documents
- ➢ Vouchers & tickets production

c. Post travel arrangements

- ➢ Payments & commissions
- ➢ Feedback & suggestions: complaint handling

Consumers

The development of electronic commerce, defined as 'the secure trading of goods, information and services using Internet technologies enables consumers to communicate directly with tourism organizations in order to request information and purchase products, as well as to interact with principals. Consumers empowered by home computing can access information about tourism products and organizations instantly, inexpensively, interactively, almost regardless of the physical location of both service providers and themselves. They can also make and alter reservations and purchase tourism products through electronic shopping and banking systems. The proliferation of CD-ROMs also allows the storage and distribution of memory-consuming multimedia presentations to both individual and institutional customers, improving the promotional function of organizations. Serving consumers electronically also contributes to the cost reduction of enterprises. Similarly tourism organizations can reduce their cost and improve their competitiveness by serving consumers through the Internet. Tourism organizations can enhance their performance by empowering their strategic marketing and management efforts through undertaking all their functions by advanced ITs. This will enable them to improve their networking and ultimately to improve their 'virtuality'.

Example: Functions to Consumer

> ➢ Electronic commerce
> ➢ Travel advice
> ➢ Request: availability/prices/information
> ➢ Reservation & confirmation
> ➢ Amendments for a reservation
> ➢ Deposits and full settlements
> ➢ Specific requests/enquiries

Inter-Organisational& Intra-Organisational Functions

A number of useful applications are available in the tourism industry, supporting both inter- and intra-organizational functions. These often empower joint marketing efforts as well as horizontal, vertical or diagonal integration. Tourism enterprises can exchange customer information either to facilitate the formulation of total tourism product or to undertake joint marketing campaigns. For example airlines co-operate with hotel chains and car rental companies in issuing frequent flyer miles or providing rewards and privileges to consumers. Airlines also formulate alliances (e.g. Star Alliance) in order to enhance their

globalization and to take advantage of code-sharing agreements. This enables the provision of seamless products and the development of comprehensive marketing campaigns.

Intra-Organizational-Consumers Functions

Enterprises utilize ITs for addressing individual needs and wants of their consumers. Partnership or relationship marketing attempt to maximize customer loyalty by building bonds between consumer and organizations. Mutual benefits can be achieved in this way, as consumers gain extra benefits, special treatment or discounts, while enterprises increase the satisfaction and loyalty of their regular consumers. They also gain a wealth of marketing information about their needs and spending habits, without commissioning expensive marketing research. Direct and database marketing, frequent flyer programmes and guest histories are often utilized in this sense. Experienced consumers may also have access to some electronic facilities, which enable them to achieve a higher flexibility and interactivity with the organization. Eventually the development of 'one-to-one' marketing, where tourism bundles will be packaged for the individual needs of consumers can only be facilitated by Information Technology.

Inter-Organizational-Consumers Function

Consumers increasingly utilize inter-organizational functions in order to identify and purchase suitable products and services for their needs. As the vast majority of tourism products are offered by small and medium-sized tourism enterprises, consumers often need to have access to information, programmes, schedules, tariffs and availability of a wide range of tourism providers in order to be able to amalgamate their tourism products. Thus, Computer Reservations Systems, Destination Management Systems and the World Wide Web are utilized to access data from different enterprises, either by individual consumers themselves or by travel agencies acting as brokers on their behalf. The trend towards independently arranged trips effectively demonstrates that more consumers will rely on technology for selecting, amalgamating and purchasing their tourism products.

Integrated Approach to Informtion Technology & Tourism Value Chain

The value chain model, since its conception by Porter has been extensively used by researchers to map the organizational and industry level linkages and networks and to analyse and describe where value resides at these two levels. It has been argued that the tourism product is a rather complex one and is directly associated with the idea of the holiday or vacation 'experience'.

The overall satisfaction of a tourist depends on the experience of the product as well as on the experience from various intermediaries involved in the bundling, packaging and making the tourism product available to the tourist for purchase. The full range of activities which are required to bring the tourism product from conception and production to the actual experience of the tourist can be defined as tourism value chain. It is a series of transfer activities from product supplier to final consumer, and is constituted by tour product supplier, travel agents and the final consumer.
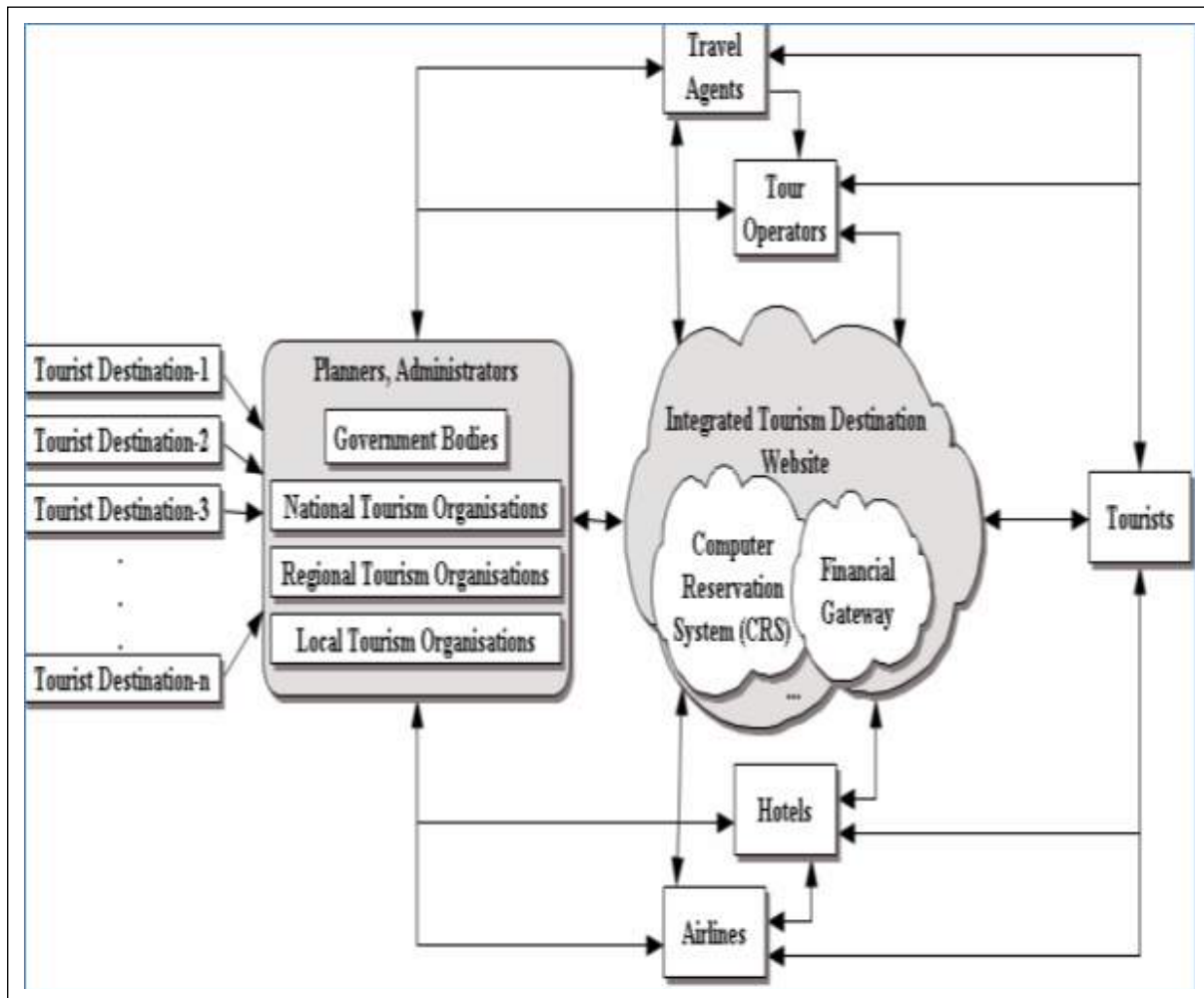
Information Technology and Tourism Value Chain Integrated Approach

*Source: **Vivek Gupta &Devashish Das Gupta***

The proposed tourism value chain (Figure) is made up of tourist, an integrated tourism destination website (with a financial payment gateway and a global, distributed computer reservation system), tour operators/travel agents, hotels, airlines, national tourism planners, administrators and tourist destinations.

Atourist may choose to book a tourism product from any of the five intermediaries, viz.,

(1) Travel agents,
(2) Tour operators,
(3) Online destination website,
(4) Hotels, or
(5) Airlines.

Tour operators can be seen as tourism product aggregators, whereas travel agents act as information brokers, providing the final consumer with the relevant information and booking facilities. The integrated tourist destination website connects the tourist with other intermediaries, with many features such as querying online, online reservations, etc.

Imperatives of Successful E-Tourism System

A decade after the Internet spurred airlines, hotels, and other travel players to sell directly to customers; the sector's ecosystem is fracturing. Companies are abandoning the systems that are supposed to provide consumers with one-stop shops to book flights, accommodations, and other services. Lawsuits are being filed. And the very people whose interests should be paramount—customers—are being caught in the cross fire. That's giving newcomers a chance to swoop into a sector that today boasts annual online sales of almost $100 billion, around a third of all global e-commerce activity.

This turbulence isn't a bad thing: the travel sector has reached the next phase in its evolution, and some creative destruction is necessary. In fact, companies are already investing billions of dollars in the next wave of travel e-commerce, from revamping Web sites to changing the technology infrastructure.

Airline like Air Asia and tiger airways own a very powerful web page and promotions that makes them very attractive as they have e booking process that allows them to customise their products which offers them a chance to ignore services that might not be importance and pay less.

Robert Carey et.al has signified the importance of certain changes in the e-tourism in order to remain successful and overcome certain challenges. Below mentioned are those imperative suggested for the success of e-tourism in the future.
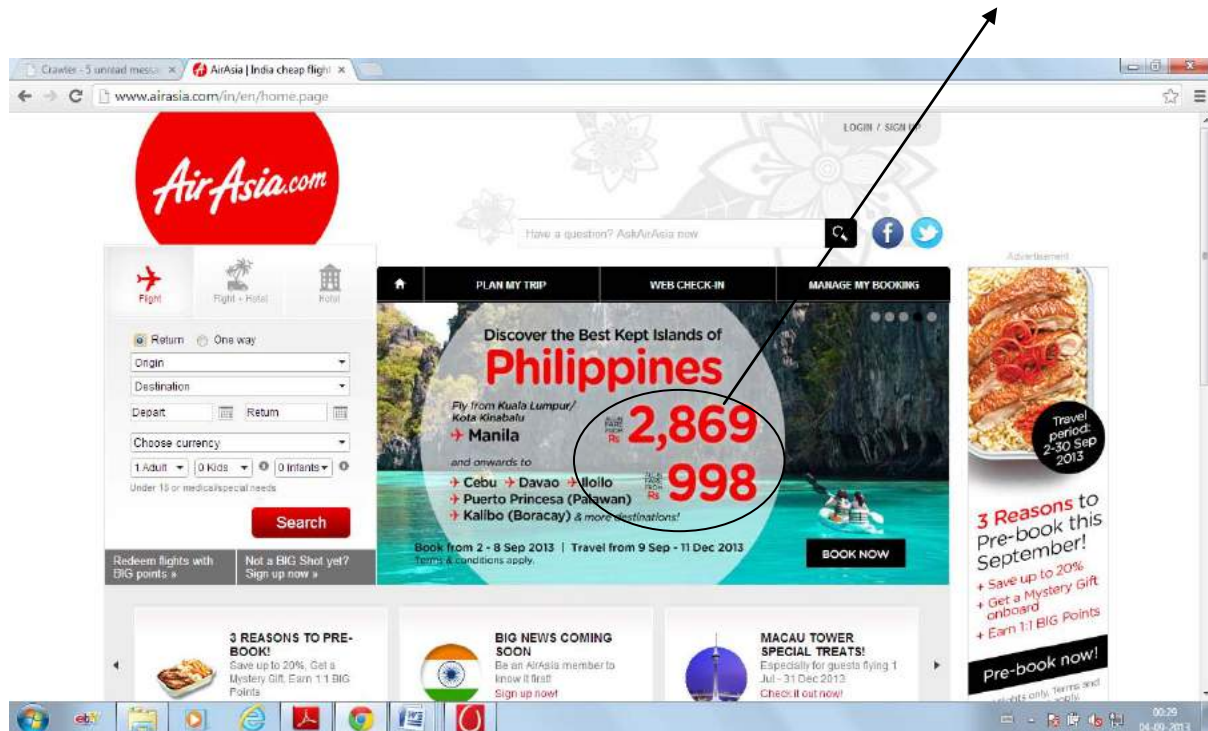
Air Asia's promotions – Example for lowest air fare

a. *Focus on Customers, not Channels*

The travel sector's approach for two decades has been to push customers toward lower cost yet more uniform distribution channels. We believe this is the wrong response to a growing mandate for product differentiation: while some customers value price above all else, that attitude is far from universal. Travellers differ in clear ways when it comes to their requirements—both in their travelling needs (which inform product design) and their shopping needs (which inform merchandising design and are relevant for distribution). Suppliers should shift from a business-to-business, channel-centric approach to a decidedly customer-centric one: the overarching goal should be to win customers, not to fight a zero-sum game with intermediaries (for more on how to win customers, see the accompanying interactive exhibit, "Understanding travel's core customers,"on mckinseyquarterly.com).

In an ideal world, suppliers would tailor services to each individual. Reality makes that goal almost impossible to achieve, but travel companies can and should craft focused solutions for a range of broad customer segments. Price-driven leisure travellers, for instance, are drawn to transparency and comparability above all else, shopping at an average of three to four Web sites before making a purchase. So why don't airlines, hotels, and car-rental companies bring price comparability to their own sites? This is exactly the model adopted by US insurance companies that quote competitors' prices alongside their own. While

there is some risk of customer defection—especially among price-focused travellers—that's mitigated by the fact that this approach helps earn customer trust and draws valuable insights (about consumer preferences and behavior) that enable more effective merchandising.

Customers in another segment—unmanaged business travellers—are too small to justify the expensive services of large travel-management companies. However, less costly and more efficient technologies make it easier to service this "long tail" of corporate travellers, and suppliers and travel-management companies alike recognize the potential ROI of moving them to online channels. Unmanaged business travellers seek less expensive versions of the services received by larger accounts, such as expense-management tools, profile management, and company loyalty programs.

Meeting this demand will be complicated, but in industries such as banking and telecommunications we see a potential answer by combining a customized product offering with a different sales model. Consortiums and partnerships are likely to be the key to success—for example, imagine deploying a sales force to sell airline product bundles to small- and medium-sized businesses, empowered by the latest external advances in tracking and reporting tools.

A channel-based mind-set limits the willingness of players, particularly suppliers, to make such moves. Instead, they tend to focus on market share targets for channels (and attempt to achieve these targets with initiatives such as Web site overhauls), without considering what it takes to shift preferences by consumer segment. New capabilities, not cosmetic changes, are what are really needed. Focusing on customer-based ROI rather than on channel targets forces executives to ask themselves how much they are going to invest—in which capabilities and targeting which customer shopping needs—to produce which results.

2. Win in the Era of 'Big Data'

Travel companies have access to mind-boggling customer data: everything from basic personal information to preferred airline seats, in-flight-entertainment preferences, meals at hotels, and credit card usage. They have the means to paint detailed pictures to drive marketing initiatives that more deeply engage customers, yet few—if any—of them truly maximize the potential of the data at their disposal. There's no doubt that the synthesis of sales, pricing and revenue management, loyalty, and IT required to deliver on data's promises is daunting. But there's equally no doubt that companies from outside the travel sector specifically tooled to make the most of data are going to figure things out, enter the market, and try to steal customers.

Meanwhile, suppliers are moving slowly. British Airways recently announced that it would equip flight attendants with iPods rather than paper manifests. This provides a way to capture and use unprecedented levels of customer data, but this capability is only a small step forward—in many ways, incumbents remain squarely on the back foot in the emerging era of big data. It's not too late: suppliers have a wealth of information and resources they could use to test new ideas. But they need to ask themselves which data they could be collecting, which existing data are not being mobilized, and which capabilities they should be building (or partnering to acquire) to compete on the big data battlefront.2

3. Unlock the Power of Partnerships

Imagine if you could type (or speak) the following instruction into your smart phone: "Book my usual flights from Dallas to New York, out Monday and back Wednesday, usual hotel, rental car"—and quickly receive an itinerary compliant with your corporate travel policies. What would it take to achieve that? We see far too many travel companies seeking to undertake local, discrete tasks well and not simultaneously thinking broadly about the kinds of solutions that really engage and stimulate customers. Considering a customer's mind-set and thinking more creatively about products and services should be a priority, and that may require working with, as well as against, competitors. One good example of this approach is the recently launched hotel search and booking site, RoomKey.com, founded by Marriott International, Hilton Worldwide, Hyatt Corporation, Inter Continental Hotels Group, Choice Hotels International, and Wyndham Hotel Group.

In the world of consumer packaged goods, we've seen such partnerships take off: retailers and manufacturers now share unprecedented levels of information across their supply chains, enabling far more effective merchandising decisions and physical-distribution and logistics outcomes. Yet the most public dispute in travel—among AA, Expedia, and Orbitz—is the equivalent of a consumer-packaged-goods company pulling its products from a retailer's shelves: it benefits no one.

Our point here is twofold. First, creating new technologies is not necessarily the answer to all the challenges in travel today; indeed, the technical capacity to deliver what consumers need arguably exists already, dispersed in pockets across a dysfunctional ecosystem. Second, the potential of partnerships—lateral (supplier–supplier), vertical (supplier–aggregator–provider), or with companies beyond the travel sector—remains to be unlocked. Succeeding here may be more about identifying companies with similar interests and synergistic capabilities than about throwing new money and new technology after problems rooted in structural issues of coordination.

4. Master the Entire Customer Experience

Selling a product isn't the beginning of a company's relationship with customers; that starts when they first become aware of its brand. Equally, the relationship doesn't end at the point of sale, because every interaction with customers is an opportunity to foster their loyalty or lose their future business.3 Customer solutions in the travel industry often span multiple players, providing each with an opportunity to showcase its strengths and make a case for becoming a traveller's favourite. Some companies are actively seeking to forge tighter bonds with customers: for example, KLM Royal Dutch Airlines will soon launch a service that allows its passengers use their Face book or LinkedIn profiles to choose eat mates on upcoming flights. Malaysia Airlines is releasing a Face book service that lets travellers check if friends are on their same flight or headed to their same destination.

Like British Airways' use of the iPod, these innovations deploy technology to shape the customer *experience*, not just to conduct booking and customer service transactions. A critical prerequisite for influencing the customer experience is the dissolution of organizational barriers—not only budgets and planning processes but also ownership of information—to gain a comprehensive view of the customer journey. There should be a single customer databank, not separate ones for information on loyalty, transactions, and pricing. And to make the customer-centric approach a reality, unprecedented levels of coordination among multiple business units (including those responsible for loyalty programs, pricing, sales, marketing, and information technology) are also required. Far too few companies in the travel sector have taken the steps needed to achieve this level of unification.

The Concerns and Worries

Anju Gupta (2012) has reported some of the grey areas of electronic tourism. She reported some of the worries concerning ICT application in tourism which are mentioned below.

- ➢ Inadequate and unreliable telecommunication information.
- ➢ ICTs do not guarantee profitability unless their adoption is related to the company's strategy.
- ➢ The cost involved with adopting and using ICTs.
- ➢ The lack of relevant knowledge and skills.
- ➢ Tourism especially in India is relatively young and 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.

➢ There has not been any specific policy or coordinated approach so far for the development of information products on tourism at the national level in India. It is yet to be evolved and implemented.

➢ The information industry in India presently consists of a few software development firms and some information centre in the government sector.

However there are no database vendors in India who prepare their own databases and market them. In the absence of such units, all efforts are government dominated and the products are generally not available in the market. It is therefore essential to provide adequate government support and incentives for the development of such industry in India. (Anju Gupta, 2012)

The Future Trends of ICT-Basedtourism

Overall, consumers benefited the most as their bargaining power increased due to their ability to access accurate and relevant information instantly and to communicate directly with suppliers, while benefiting from lower switching costs. The Internet led to the intensification of rivalry among tourism suppliers as it introduced transparency, speed, convenience and a wide range of choice and flexibility in the marketplace (Buhalis & Jun, 2011).

Transparency enabled buyers to increase their bargaining power by facilitating price comparisons and access to instant, inexpensive and accurate information but reduced the bargaining power of suppliers. Rivalry was further intensified because of lowered barriers to entry and because of the possibility of equal representation of small businesses. Innovative suppliers increasingly use advanced CRM to gather information on consumers' profile and to offer tailored and value added products whilst expanding their distribution mix widely to harness the marketplace. Suppliers should enhance their direct communications with end consumers and online intermediaries to save on costs, increase profitability and enhance their efficiency. Real time representation facilitated instant distribution and led to bypassing the traditional distribution channels. This not only changed the structure of the tourism value system but also raised challenges for traditional intermediaries (Buhalis & Jun, 2011).

The need for traditional intermediaries to shift their role to consumer advisors is becoming evident and unless TAs and TOs utilise internet tools for building and delivering personalised tourism products they will be unable to compete in the future.

Although the tourism industry structure has been altered dramatically it is evident that both tourism suppliers and online intermediaries should apply constant innovation, in terms of marketing techniques and technological advancements, in order to be able to offer differentiated, personalised, tailored and value added products. The key point for sustaining their competitive advantage is to focus on their core competencies and to exploit the opportunities that technology offers to improve their strategic position in the tourism value system (Buhalis& Jun, 2011).

ICTs provide innovative strategic tools for tourism organisations and destinations to improve both their operations and positioning. Hence, the visibility and competitiveness of principals and destinations in the marketplace will increasingly be a function of the technologies and networks utilised to interact with individual and institutional customers. Unless the current tourism sector utilises the emergent ICTs, and develops a multi-channel and multi-platform strategy they will be unable to take full advantage of the emerging opportunities (Buhalis & Licata, 2002). It is safe to assume that only creative and innovative principals and destinations which apply continues innovation in using intelligent e-tourism applications and adopt their processes accordingly will be able to achieve sustainable competitive advantages in the future (Buhalis & Jun, 2011).

Conclusion

This lesson revolves around the significance of ICT and its usefulness to the tourism industry. The role of information and communication technology has gaining its importance in tourism industry at a rapid pace in the recent times. Electronic tourism signifies the *paradigm-shift* practised in the tourism industry due to the adoption of Information and Communication technology and the electronic media. There has been lots of changes in the way tourism products and services were offered and the apart from operational changes. The fundamental process of interaction and interface between the consumer and service providers and evolved and become customer friendly. Planning and consuming travel and tourism related service variable have become very easy as the information technology has paved way for creation of multiple channels that can help customer to accomplish task in less with very less effort. The information technology has brought in numerous other players apart from traditional players. One of the most important changes brought in by ICT is the empowerment of tourism customer. The current electronic tourism structure allows the customers to have lots of information and does not have to rely on the any of the tourism players. On the whole the emergence of Information and Communication Technologies has brought transparency in the tourism system, and made the system rapid and customer centric. But, it is also important that the players need to understand that the challenges and threats are going to be higher as the technology grows. The tourism players

need to be proactive in understand the rapid and changes and also be willing to the newer technologies to ensure survival and gain competitive advantage. The ICT based tourism has challenges and opportunities to operate with so, the success of the services completely rests on the ability of the players to strategically tackle the challenges and capitalise on the opportunities offered by the modern industry.

Self Assessment Questions

1. Explain the adoption of ICT and its significance to Indian tourism industry.
2. What are the IT initiatives of Indian Ministry of Tourism?
3. How does the ICT impact on the structure of Indian Tourism?
4. Compare the traditional tourism structure with e-tourism industry structure.
5. How does internet impact on the tourism service providers?
6. Discuss in detail the strategic, tactical and operational usage of ICT on tourism industry on tourism.
7. Elucidate the Buhali's Multi-Dimensional strategic framework.
8. Validate the role of ICT in the Tourism Value chain.
9. List down the intermediaries of e-tourism?
10. Discuss the imperatives of successful e-tourism System.
11. Explain various concepts of electronic tourism.
12. What is the relevance of e-tourism in India?
13. Who are the players involved in e-tourism? List down their key activities.
14. Explain the historical development of electronic tourism.
15. Write short note on GDS and CRS.
16. How does electronic technology support data processing and communication for tourism?
17. List down some of the online travel agencies and the services offered by them in India.

CASE STUDY 1

Clear Trip (Virtual Travel Agent)

Clear Trip was launched in July 2006; It is one of the top online travel companies in India with a 35% market share. Based on a straight forward promise of "making travel

simple" for its customers, Clear trip offers convenience, choice without confusion, multiple payment options, competitive prices and exclusive destination information with a customer oriented approach. But dealing with the Indian mindset that remains sceptical about dealers and their intentions, they had a tough time in gaining credibility.

However, Clear trip was able to do so by upholding integrity and transparency which are the core values of the brand. It approached its customers at every touch point and managed to establish a presence. It tapped every viable social media touch point it could get to engage customers. But just when it thought all was going well for the brand, Clear Trip came up against the Google challenge.

Clear Trip soon reached the stage of saturation in terms of online conversions. People depended more on Google search and hence to fight the approaching stagnation, Clear trip decided to explore the social media and mobile, the alternative mediums for reaching out to your customers.

Study the case of Clear trip presented above carefully and discusses the issues faced by this Online Travel Agent (OTA). Suggest measures and strategies to deal with those challenges faced by Clear trip.com.

CASE STUDY 2

Impact of ICT on Indian Tourism

Around 20 per cent of offline travel agents in India have shut shop over the last few years, according to statistics of the International Air Transport Association (IATA). Globally, too, the numbers have fallen drastically. IATA membership in the UK has fallen to 3,000 from 60,000 in the last decade. Supporting these statistics, a study by the Internet and Mobile Association of India (IAMAI) found that the ticketing business in India has largely moved to the online platform, due to which, revenues of offline travel agents have taken a beating. Online bookings of train and airline tickets rose 36 per cent in June, 2012, compared with the previous year. While railways registered 5.83 million online bookings in June, 2012, versus 4.30 million last year, airlines witnessed 1.45 million online bookings against 1.07 million, according to IAMAI. Moreover, excessive discounts and personalized services offered by offline travel agents have also worked against their interests. Nonetheless, smaller agents who do not enjoy economies of scale, and therefore cannot offer specialized services, are finding it hard to compete, the study revealed. Further, the economic slowdown made it even more difficult for the travel industry, especially the smaller or regional players,

many of whom have been looking for a buy-out. Cox & Kings, which is fast building its online expertise, and Thomas Cook, which, to cater to the unique Indian consumer needs, is offering options of buying online and paying offline. The travel space is already seeing consolidation with mergers and acquisitions taking place in both online and offline travel industry. Yatra's acquisition of Travel Services International, and Make My Trip's buying a stake in the Singapore-based Luxury Tours and Travels Pvt. Ltd are part of this consolidation process.

What are the challenges faced by the small and medium sized travel agencies? Draw strategies apart from offering suggestions to these players to compete in this sophisticated technology based tourism industry.

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UNIT - II

Unit Structure

Lesson 2.1 - History and Evolution of Global Distribution System

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Learning Objectives

At the end of this unit the learners will be able to

➢ Understand the significance and functions of GDS

➢ Get insight into the historical development of GDS systems

➢ Gain understanding of the relationship between CRS and GDS

➢ Acquire knowledge on the driving forces of GDS

➢ Know the relevance of HDS (Hotel Distribution System) to the Hoteliers.

Introduction

The technology revolution gave birth to one of the most effective business tool called e-commerce that could change everything around the business process and its dimensions to reach the customer. In unit 1 of the course material we were able to understand the significant role of the Information technology and e-commerce in tourism sector. The emergence of electronic median into Indian markets during 1990s brought about huge turnaround in the businesses and intense changes that empowered consumers of the tourism industry. Large number of people linked the emergence of modern travel distribution with the dawn of the Internet in e-commerce during the beginning of the 20th century. But in fact, internet commerce in tourism and travel had already experienced the "dot-com" explosion even in the beginning of 1970s in the and slowly become common platform during the late 1980s. The information technology and systems powered electronic version of travel industry with

the origination of CRS (Computerised Reservation System). These CRSs played critical role in changing the demand level for tourism and increasing the efficiency of the participants with better accessibility. Later, after a decade the CRSs got transformed into GDS (Global Distribution System).

The GDSs were very successful in offering the requirements of the tourism service providers as well as the consumers. These systems were the pioneers in facilitating Business to Business mode of electronic channel in the 1970s. The famous American based GDS organisation called SABRE came together with an UK based Apollo Inc to start planting their propriety in-house reservations systems in travel agencies. Before this, the traditional travel agents vested excessive time duration for registering the reservation by doing it manually. Many airline companies understood that adapting to information technology for their reservation process would make them more efficient and competitive in the market by reducing the time and effort taken to accomplish the reservation process.

The service producers realised that the technology oriented internet based travel agents could make the process more productive and specifically support airlines by acting as an extension of the marketing centre. Classical examples for the worldwide realization of electronic market coordination are the emergence of CRS and GD Sin to the travel and tourism industry. As the intensified competition is traced alongside rapid changes in the technological system there are questions about the relevance and the life of the existing distributions systems and scope for evolving these systems.

The existing distribution systems like CRS and GDS have already travelled quite a period of time in the western countries and at least a decade in the developing Asian countries like India.They actually originate from the aviation sector and of the travel industry. With the origination of commercial flights, the aviation companies required an efficient system to consent to travel agents to work on their behalf to make bookings and reservations for their flights.

Later due to the explosion of mass tourism, the GDS systems were modified so that they could also take care of the hotel booking and reservations, renting cars, cruises, packages including golf experience and various other things that are required for the tourists and facilitated by the travel agents. Deflecting into the leisure market demands, the GDSs were modified and redesigned to diversify their portfolio in order to gain advantage of their technological business components and network as well as economies of scale. Such changes supported the distributions systems to deliver diversified services to the diversified customer segments and fought against the challenge of business market saturation.

With this introduction this unit will discuss the functions of the GDS and offer comparison with the CRS and other distribution systems. The unit also looks to throw light on the evolution and development of the tourism distribution system and assess the cases of the major GDS systems like Amadeus, Galileo, Sabre, World span and Abacus in the current tourism scenario. Finally it will elucidate the models of the GDS and CRS and the changes happening across the world.

Understanding Global Distribution System

Internet as a distribution channel for travel needs can be learned by understanding the Global Distribution System (GDS) and its dynamics.

GDS can be understood as the set of networking operated by service enterprise that enables computer based transactions between service providers and intermediating agent to condition the tourism and travel related services to the tourists and travellers. GDS is the large and sophisticated electronic travel reservation systems currently in use throughout the world.

GDS is a system that integrates services, rates and bookings consolidating products and services beyond all travel sections like Airline reservations, Hotel reservations, Car rentals, and other tourism related activities.

It networks large number of tourism and travel service providers to offer a common stage for bookings and reservations (flight, hotel, packages and cars) to consumers across the world.

It facilitated both the leisure and business clients, by making the information available and facilitating to make reservations for entertainment services like Cinema, holiday packages and tourism destinations. Eventually the centre of the GDSs are perceived to be based on a chain of smaller, regional and specialised technological systems for their leisure market offerings..

They have gradually expanded their geographical coverage integrating both horizontally, with other airline systems, and vertically by incorporating the entire range of principals, such as accommodation, car rentals, train and ferry ticketing, entertainment and other provisions. It emerged as the major driver of IT, as well as the backbone of the tourism industry and the single most important facilitator of IT globalisation. It matured from their original development as airline CRSs to travel supermarkets.

GDS systems have revamped and positioned again to support the marketing and promotional activities for the providers (i.e., other intermediaries, principally travel agencies); changing their concentration from aviation industry to few other travel-related sectors; and leveraging their strong near-term cash positions to purchase or partner with other intermediaries to provide end-to-end links between end users and suppliers. Their online connection is through their support of other intermediaries, plus mergers, acquisitions, and partnerships with selected online players.

GDSs' improvement in terms of efficiency and reliability enabled principals to distribute and handle their bookings and reservations across the world by connecting the customer requirements with the tourism offerings. Therefore, great synergies are attained, where the forces of globalisation have stimulated GDS progress.

The GDS has been the instrument for some of the most critical innovations in the process and operations of tourism and travel industry. Some of the innovative practices evolved through GDSs are e-ticketing; travel e-commerce; graphic seat selection; and the ability for agents and travellers to view on one screen, public, private/negotiated, consolidator and Web fares. A Consumer is allowed to book an airline ticket, airport transfers, car rentals, book hotel reservations, plan sightseeing cruises, block theatre tickets and make dinner reservations, all these in a single schedule through a single GDS system.

Distributing the tourism and travel related services using GDSs' had promised enormous advantages to the service providers and consumers in terms of price, efficiency, and access relative to traditional print- and telephone-based methods. Capitalising on GDS, the service providers like hoteliers and destination have accessed the global market of travel agents, all clamouring to sell their range of services with meagre transaction cost beyond what these service providers would normally incur in terms of commission charges.

There are currently four major GDS systems: Amadeus, Galileo, Sabre and World span. In addition, there are several smaller or regional GDSs, including SITA's Sahara, Infini (Japan), Axess (Japan), Tapas (Korea), Fantasia (South Pacific), and Abacus (Asia/Pacific) that serve interests or specific regions or countries. Later in the chapter we will provide a closer look at the four major GDS.

Functions of Global Distribution System

As the previous section clarifies the basic understanding of the Global Distribution System and its significance to the tourism and travel related industries. This part of the unit will elucidate various functions performed GDSs. Global Distribution System provides the

basic functions for the reservation process such as product presentation, reservation, fare quote & ticketing and additional services.

a. **Product Presentation**

For a CRS, the most important source of information is the presentation of the products and services offered by providers in all areas related to the travel industry. Each group of service providers has individual screen categories the contents of which particularly represent the complexity of their offerings and specific features of their services. The product "flight" for example does not require complex descriptions since it is sufficient for a neutral product presentation to state the departure and arrival times, the route, availability of particular reservation categories and possibly the fare. It may, however, be difficult to describe the products of other service providers appropriately with only a limited amount of information. Hotels, for example, have so far only been able to provide information about the price, the size of the bed and its approximate location which alone is not a meaningful description for potential customers. For this reason, it is intended to link the particular offers to visual multimedia technology to be able to provide more detailed information to the customer.

b. **Reservation**

The core function of reservation systems and the main reason for developing them is the reservation of offered services in the travel industry. To this end, a so called Passenger Name Record (PNR) or Guest Name Record (GNR) is created for each passenger or each group of passengers. These records contain all services-related customer information. At the same time, this information is transferred to the internal inventory system of all service providers, distributors who thus have the latest information about availability at any point in time and can use it as a basis for a new offer. In addition, the system can also store customer related information such as e.g. all services provided to a certain customer, type of payment, service information etc.

c. **Fare Quote & Ticketing**

Just like the product presentation, the fare quote, ticketing and voucher generating process depend on the type and the complexity of the services offered. For flights, multiple fares are being offered which differ according to the reservation category, the date of the journey, the day when the reservation was made, the route and the length of the stay. That means that practically each fare needs to be calculated individually. In addition, fare quotes can change daily. The prices of other service providers, however, are relatively fixed so that

in most cases, they stay an unchanged part of the offer. For the ticketing, travel agencies receive a fixed number of ticket forms which may only be used after confirmation has been received from the respective service provider. Typically, the print-out of any additional information material is not supported by most systems as it is not always necessary, like for example a print-out of a hotel or rental car reservation..

d. Additional Services

Because of the increasing competition in the market, system operators were forced to offer not only the three essential components of an information and booking system but also additional services. Today, the user has direct access to essential travel information and can find further information in all CRSs about trade shows, visa regulations, particular events etc. Furthermore, programs and interfaces have been developed which facilitate the internal administration for each travel agent. Also invoicing, accounting, customer and quota management increasingly depend on the respective CRS. User prompting has significantly improved so that even inexperienced users can easily learn how to work with the reservation procedure. Since more and more PCs are being used in this area modern user interfaces have been introduced.

GDS companies offer far more than just simple air travel bookings. GDS systems are capable of booking:

➢ One way and roundtrip airline seats	➢ Hotel rooms
➢ Rental cars	➢ Tours and packages
➢ Cruises	➢ Insurance
➢ Restaurant reservations	➢ Theatre tickets
➢ Itinerary changes	➢ Complex international routings
➢ Rail	➢ Ferry
	➢ Limousines

Ultimately GDSs should look to not only just meet the customer requirements but also to exceed the expectations of their stakeholders, (i.e. consumers, principals, travel agencies and shareholders), offer superior products.

Global Distribution System- Market

A Global Distribution System is a platform between two distinct groups of customers, airlines and agents.

a. On the one side of the platform, airlines provide travel content (namely prices and availabilities) to be included in the GDS offer to agents. Through the platform, airlines obtain access to a distribution channel, namely the network of agents using that GDS.

b. On the other side of the platform, each agent subscribing to a GDS provides its customer base to airlines via the GDS. Through the platform, agents obtain efficient access to travel content, with facilities for price/content comparisons as well as an interface for centralised bookings from different sources.
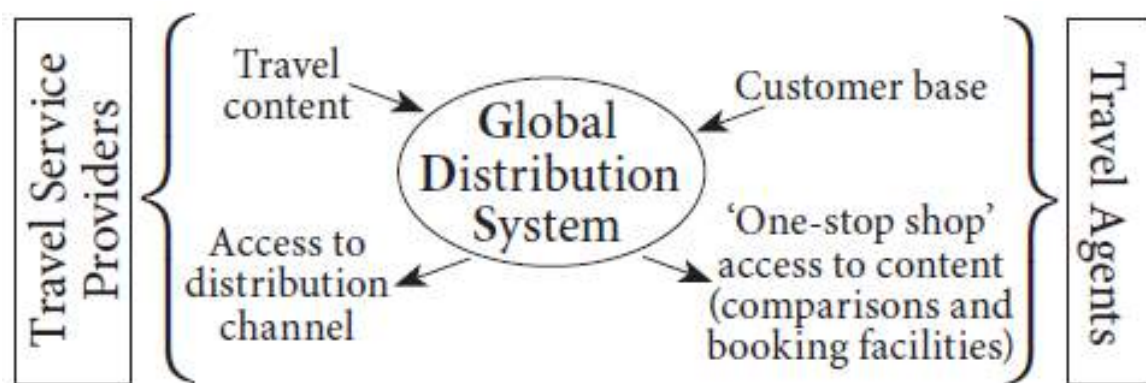
GDS Market
Source: Evans (2003)

The two sides of the GDS market exhibits (Figure) some distinctive features.

a. Airlines whose content is offered via GDSs tend to have a broader (pan- European or even global) coverage than agents using GDS services (only very few having a broader than national coverage).

b. Virtually all airlines subscribe to all GDS providers, whereas agents generally tend to use only one GDS.

The existence of the GDS is justified by the value it creates in terms of

a. Lower transaction costs (or higher efficiency) especially for agents: Reduced transaction costs mainly benefit agents by making their searches more effective and less time-consuming, as compared to searches using a number of airline-specific sources.

b. Positive network externalities especially for airlines: As regards network externalities, 'indirect' (i.e. cross group) externalities for airlines make the two-sided nature of the market relevant for its analysis. In this specific case, indirect network externalities

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arise from the fact that the wider the network of agent outlets (and the related end customer base) reached by airlines using a given GDS, the larger the value for airlines in using that platform.

The tourism market does not rely completely on these distribution systems, there are numerous other players and intermediaries also involved and playing role in tourism consumption. It is important to understand and be aware of the various other channels and access points (Figure) through which the customers can have information, book or reserve travel-related services. However, these different channels may have different groups of customers on their particular sides. Also, even when addressing the same customers as GDSs (i.e. agents), the functionalities provided by web-booking facilities may be limited. For instance, an agent may have a 'direct link' to the booking inventory of an airline, thereby bypassing
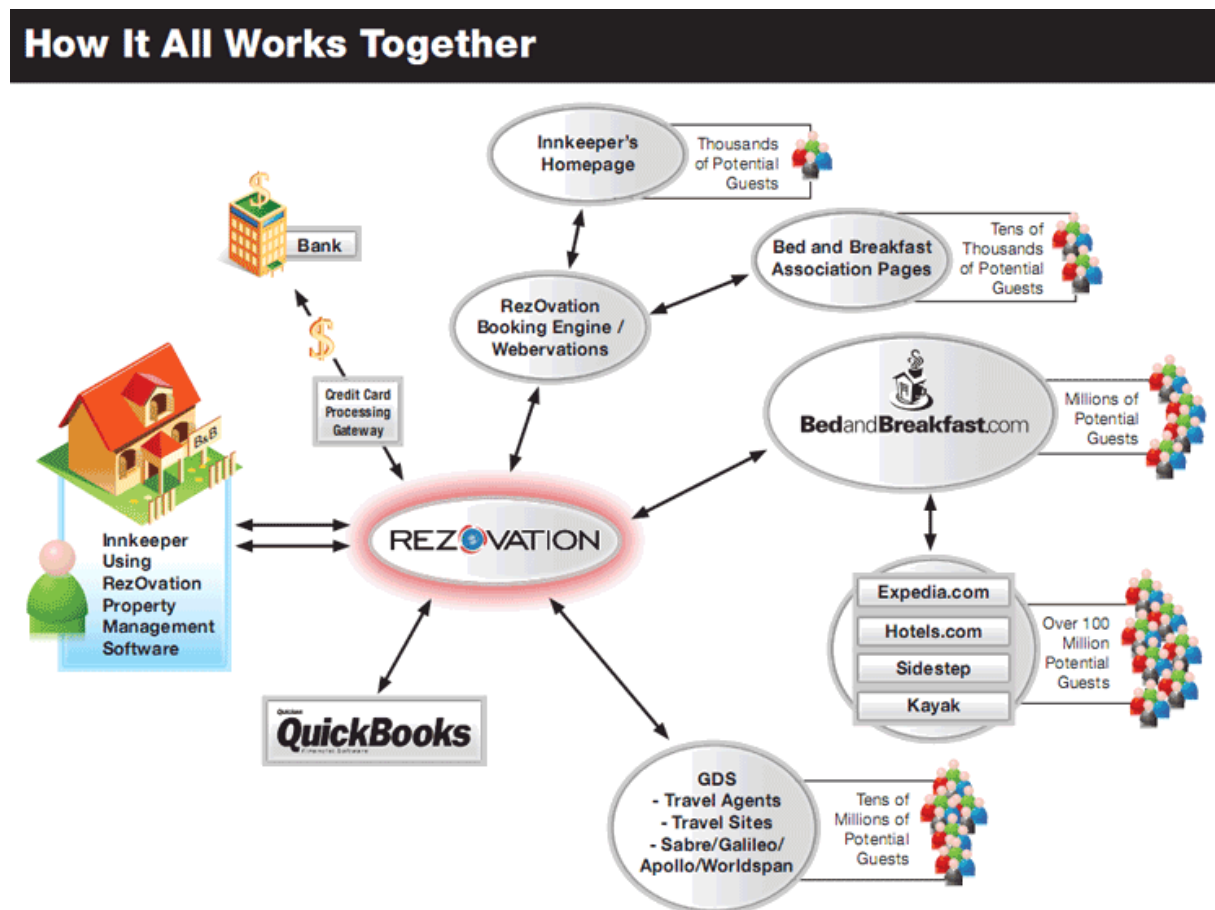
GDS and various other channels of Travel & Tourism Industry

GDS providers and other related fees, but at the cost of losing the price comparison functionalities or of having to create in-house solutions to reproduce similar functionalities. The limited substitutability between GDS platforms and alternative channels suggests

considering a narrow product market for GDS, rather than a broader market including those other distribution channels as well.

History & Evolution of Globaldistribution System

There have been 3 stages of evolution the first reservation system was called an Airline Reservation system, the second a Computer Reservation System (CRS) and the third evolution is today's Global Distribution System (GDS).

The historical development of the GDS is explained in the Figure. The historical development of various GDSs and its interdependence of technology with one another is shown below (Figure).
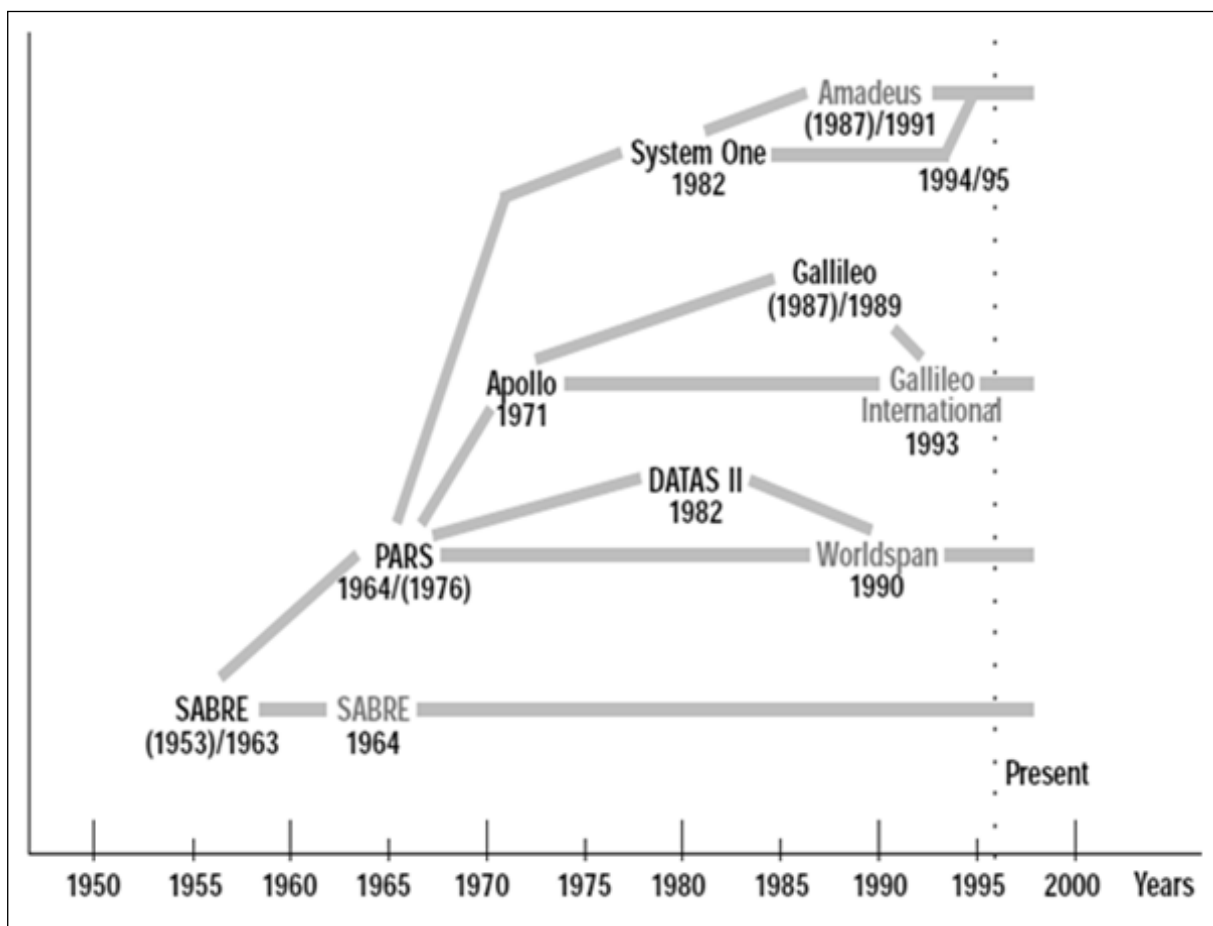
Historical Development of GDSs

Source: Axel Schulz, Lufthansa Systems GmbH Vol.6 – No.2 – 1996

Global distribution systems (GDS) have evolved from the first computer-based reservation systems implemented by several U.S. airlines in the late 1960s. However, there are several key milestones and technological innovations worth highlighting.

Stage 2 (1960s)

American Airlines (AA) was the first company to develop a real-time computerized reservation system. In a joint venture with International Business Machines (IBM), the Semi-Automatic Business Research Environment (SABRE) was launched in 1964 and helped American process nearly 26,000 reservation requests per day (Sabre Travel Network History, 2004).

Stage 2 (1970s)

In the late 1960s and early 1970s, virtually all of the major carriers, including United, TWA and Delta were operating their own central reservation systems (CRS). It was not, however, until 1976 that these systems were installed in travel agencies, allowing agents to both book and change reservations directly in the system using remote access terminals. Clearly, the ability for airlines to operationalize their booking systems in geographically dispersed markets was a major competitive advantage for those who participated (Sabre Travel Network History, 2004).

Stage 3 (1980s)

The distributed system was paralleled by increases in computing and storage power; during 1980, SABRE was available in over 130 locations and could store 1 million airfares. After The Société International de Télé-communications Aéronautiques (SITA) is also outlined, which supplied telecommunication services to several of the GDSs and other travel and tourism organisations (Sabre Travel Network History, 2004)?

Stage 4 (1990s)

Amadeus Global Travel Distribution was formed in 1987, with each of the four European airlines Air France, Iberia, Lufthansa and SAS Scandinavian Airlines System owning equal shares. In 1991, however, SAS sold its share to the other three due to financial difficulties following the Gulf War, leaving Amadeus equally owned by the other three airlines. The Amadeus Central System was based on the software of the reservation System and located in Erding near München in Germany. The system became operational in 1991, integrating the four national reservation systems Esterel in France, Savia in Spain, Smart in Sweden and START in Germany, which were predominantly controlled and (partly) owned by the original four partner airlines, respectively, as well as integrating a number of other national systems of further airlines. Amadeus operated on its own network Amanet, on

various national networks and on the global SITA network, and, in 1994, claimed to have Europe's largest civilian database. Since Amadeus' foundation, the operation and marketing of the national Amadeus sub-systems have been conducted mainly by > 30 national marketing companies (NMCs) such as START Amadeus Vertrieb GmbH in Germany, and Amadeus Austria Marketing Ges.mbH in Austria, with SAS having also remained a national partner (Grubesic, Horner, Zook and Leinbach).

CRSS and its Participation in E-Tourism

The previous section of this chapter provides a detailed understanding of the origination and functions apart from its significance in to the travel and tourism industry across the world. The following section will provide the outline over CRS and give us the understanding of the functions and components of the system apart from elucidating its role alongside GDSs.

Computerized networks and electronic distribution in tourism emerged in the early 1970s, through internal CRSs. They became central to the distribution mix and strategy of airlines. CRSs are widely regarded as the critical initiators of the electronic age, as they formulated a new travel marketing and distribution system. A CRS is essentially a database which manages the inventory of a tourism enterprise, whilst it distributes it electronically to remote sales offices and external partners. Intermediaries and consumers can access the inventory and they can make and confirm reservations. The rapid growth of both demand and supply, as well as the deregulation of the American air transportation demonstrated that the tourism inventory could only be managed by powerful computerized systems. Airlines pioneered this technology, although hotel chains and tour operators followed by developing CRS.

CRSs enable principals to control, promote and sell their products globally, while facilitating their yield management. In addition, they integrate the entire range of business functions, and thus can contribute to principals' profitability and long term prosperity. CRSs often charge competitive commission rates in comparison with other distribution options, whilst enabling flexible pricing and capacity alterations in order to adjust supply to demand fluctuations. CRSs also reduce communication costs, while providing intelligence information on demand patterns or the position of partners and competitors. Hence, CRSs contribute enormously to both the operational and strategic management of the industry

The Flowchart or diagram (Figure) is an example of process and functions of CRS. The chart depicts the CRS of Sabre, one of the leading IT based reservation system software that enable s the stakeholders of the tourism to conduct their business performances with the help of information and communication technology.
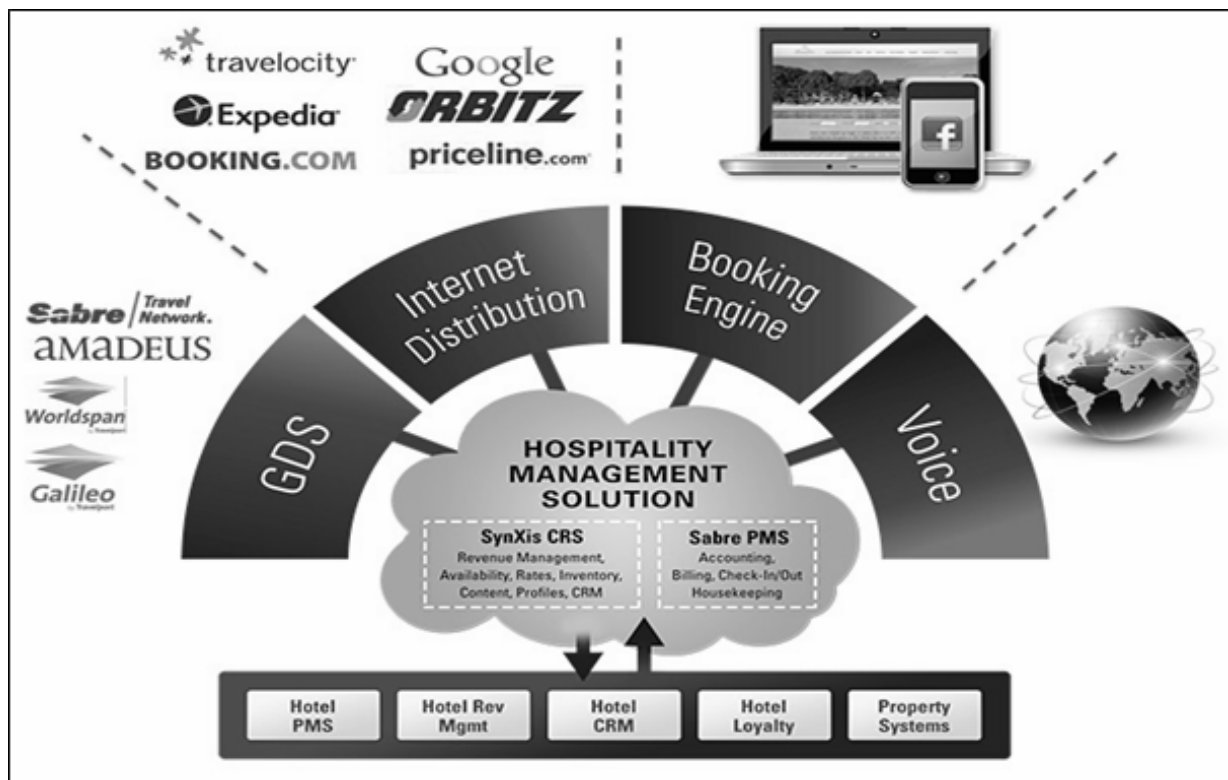
Sabre – Example of CRS

Source: http://www.sabrehospitality.com/central-reservation-systems.php

GDS Vs CRS

Though GDS has evolved from CRS, both have independent functions that needs co-ordination between them. This section of the chapter will provide discussion into the comparison and relevance of GDS functions with CRS.

GDS is different from a Computer Reservation System which is a reservation system used by the respective vendors. Primary customers of GDS are travel agents (both online and office based) to make reservation on various reservations systems run by the vendors. It is important to note that GDS holds no inventory, the inventory is held on vendors' reservation system itself. A GDS system will have real-time link to the vendor's database. For example, when a travel agency requests a reservation on the service of a particular airline, the GDS system routes the request to the appropriate airline Computer Reservation System. This enables a travel agent with a connection to a single GDS to choose and book various flights, hotels, activities and associated services on all the vendors in the world who are part of that GDS.

A Computer Reservation System is a computerized system for saving and retrieving information when needed related to air travel. CRS were created and used by airlines and at a later point they were finally used in tourism intermediaries like travel agencies.

The best known global GDSs are Amadeus, Galileo, Sabre, and World span with Amadeus being the only one which is largely owned by European airlines. Together with Galileo, it is the leading system in the European market. Galileo, however, also has a strong position in the US market after it merged with an American system. Sabre and World span have been developed in the US. There is one downside of using GDS and it is the fact that it costs airlines money to go through a GDS process. Airlines complain that the prices are too high and therefore some poorer airlines have decided to post their best offers by using their own websites instead of the global distribution system so that they do not go bankrupt.

CRS and GDS seem to have the same functions but the major difference between these two systems is that CRS only provide information about airlines whereas by using GDS you can reserve a ticket, a room in a hotel and also a rental car. CRS and GDS have been acting as the driving force of tourism and hospitality industry across the world. These systems play significant role in driving the tourism consumption at the global stage.
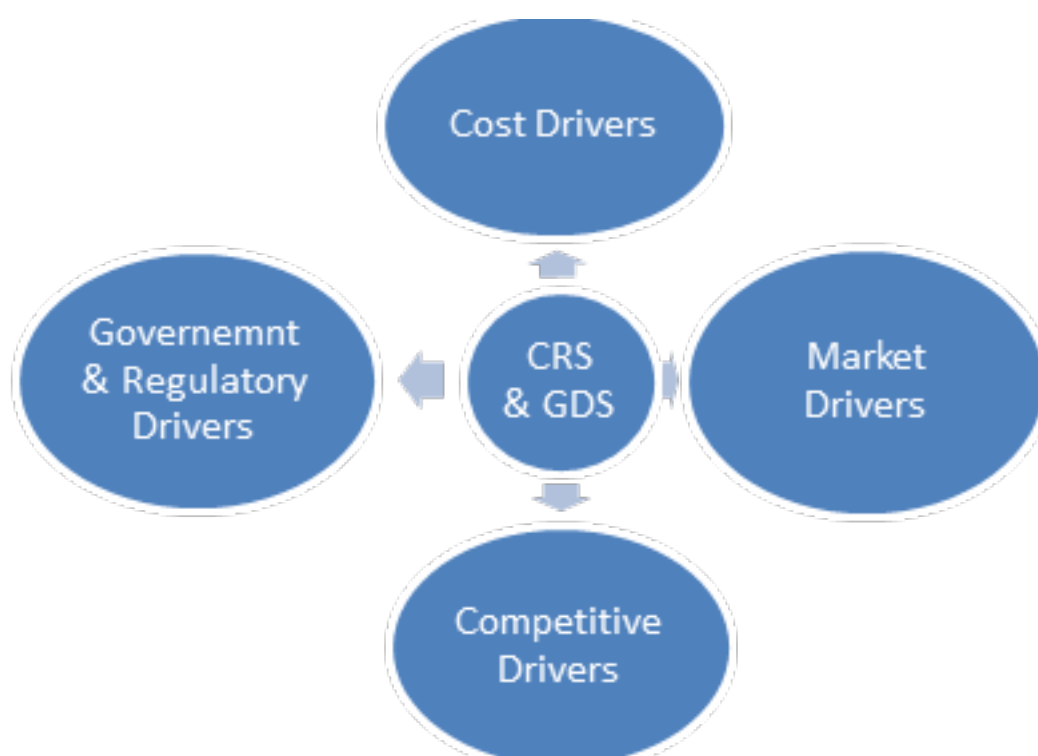
CRS and GDS as a Global Drivers for tourism and hospitality sector

The figure shows the four various aspects or forces of CRS and GDS that drives the tourism industry. The Cost, Government policy, market and competitive forces are the drivers of tourism across the boundaries. Figure displays various components of the driving forces for understanding.

Cost drivers	Market drivers
• Increase efficiency • Low distribution cost • Low communication cost • Low labour cost • Minimisation of waste factor • Facilitator of flexible pricing	• Satisfy sophisticated demand • Flexibility in time of operation • Support specialisation and differentiation • Provide last minute deals • Accurate information • Support relationship marketing strategies for frequent flyers/guests • Quick reaction to demand fluctuation • Multiple/integrated products • Yield management • Corporate intelligence • Marketing research
Government and regulatory drivers	Competitive drivers
• Deregulation • Liberalisation • Government supported	• Managing networks of enterprises • Value-added skill building • Flexibility • Knowledge acquisition • Strategic tool • Barrier to entry

Driving forces of GDS and CRS at Global stage

Source: Buhalis (1996)

Hotel Distribution System

The distribution system of rooms in the hospitality industry is vast and complex for several reasons. First of all because it concerns a worldwide market and secondly because of the multiplicity of entities related to hotel distribution. Channels of distribution in the Hospitality industry are evaluating at the same time that the tourism sector does. At the beginning, when tourism was being generalized and accessible for a larger number of people a distribution system born – now it is known as the classic or conventional distribution system. The trend today and because of the full adoption of the Internet – supply and demand wants to be relating directly.

The HDS (Hotel Distribution System) involves tries to provide direct access to the customers to ensure lower cost. The tourism and travel related information and consumption can be done through distribution systems and as well as directly. Currently the Hotels try to own internet based and self owned distribution system through which they provide information, and book reservations for the customers directly instead of going through Online travel agent or GDS.

The HDS (Figure) is only one among the distribution system owned by the company to have direct access with the customer to lower the cost and improve efficiency. A company

though works through its distribution system it may not be viable or competitive enough to just operate through one distribution channel therefore, the Hoteliers try to utilise the services of various other channels like GDS, CRS and online travel agents to ensure consolidation of business across various channels.
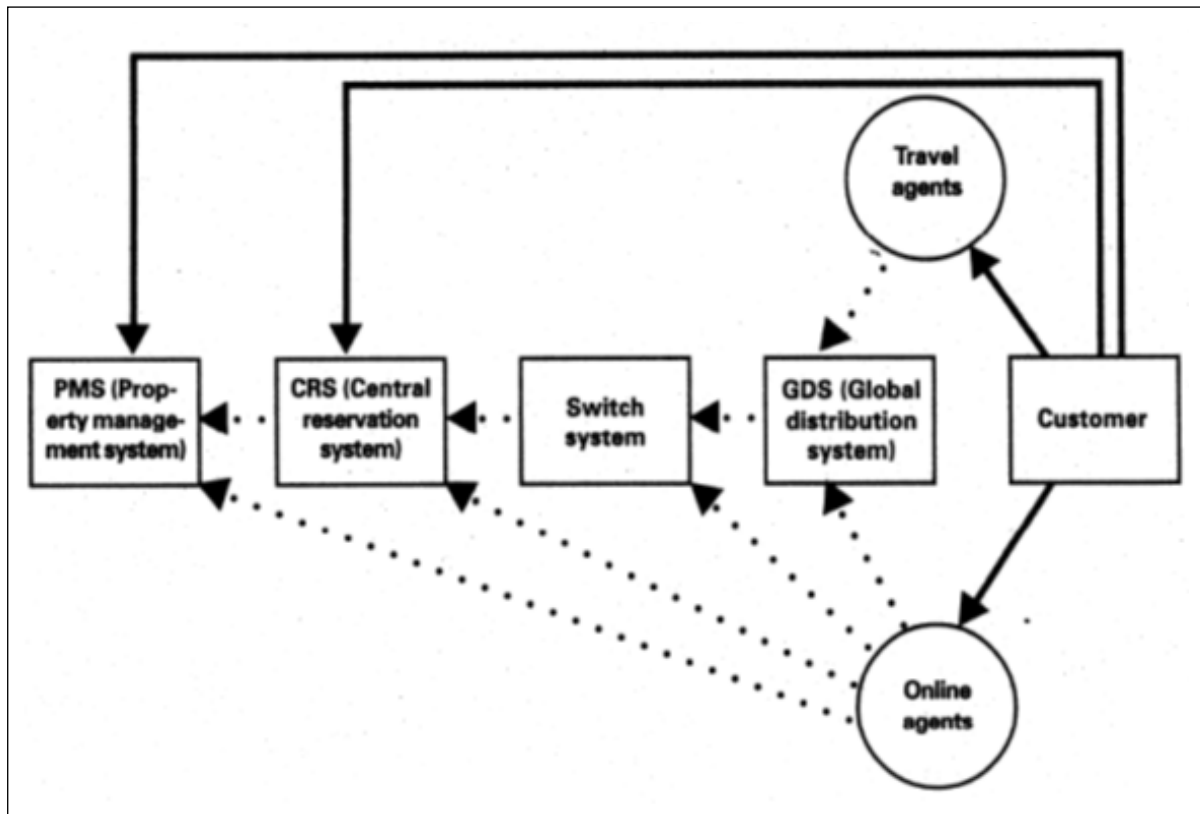
Process and structure of Hotel Distribution System
Source: Choi and Kimes (2002)

Conclusion

This unit of the book facilitates discussion on the basic understanding on GDS functions and its significance to the tourism sector. The unit offers to understand that the GDS and CRS had emerged into the tourism sector 3 decades before and have evolved over the period of time. Its contribution towards the travel and tourism industries is huge and it still holds very significant role driving the tourism related services at global stage. These Distribution systems though add up to the cost, it certainly supports and offers more efficiency and convenience to both service providers and the service consumers. There are few misconceptions about the dependency of GDS and CRS, and this unit explains how these systems contribute to each other's success and the co-existence nature of them. It is critical to note that as the electronic tourism transforms in the world, distribution channels will become less identifiable as all are networked to different stages and in diverse ways.

It is becoming a common practice today, because of the full adoption of the Internet – supply and demand wants to be relating directly. One of the major challenges posed by GDS is the cost factor though these system offer better access and multiple channel points there is accost factor involved in integrating with GDS. Some of the tourism service providers like airlines, travel agencies and their managed travel customers choose to use the GDS for efficient access to content and for the ability to control preferred supplier usage at the point of sale. As a result, the carriers feel that for corporate customers, GDS fees can be at least partially offset by savings achieved through improved efficiency and processes. They also feel that the agencies should support some technology cost. But in practice there is problem in this assumption as there is already a threat in the name of LCC (Low cost Careers) that puts huge pressure on the competitors to rely on self distribution system rather than the Cost tagged distribution system.

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Lesson 2.2 - Popular Global Distribution Systems (GDS)

Learning Objectives

The learner will be able to appreciate the following at the end of this unit

➢ Contributions made by the major GDSs like AMADEUS, GALILEO, ABACUS, SABRE and WORLD SPAN to the travel and tourism industry across the world.

➢ Understand and analyse the business process and their offerings of the major GDSs to the Global tourism market

➢ Compare and contrast each of their accessibility and networking used for business operations.

Introduction

The previous lesson presented a discussion on GDS and its significance to the players and participants of the tourism and travel sectors. The Emergence of the Information technology and communication systems (ICTs) have paved way for the invention of the GDS systems that integrates and networks various tourism service providers, agents and customers. One of the major strengths of these systems is their flexibility and capability to offer multiple channel options and accessibility to the customers to have information as well as book or reserve travel related services. There are quite a few GDSs operate across the world specialising in different areas of travel and tourism. There are five major players of GDSs across the world namely:

1. Amadeus,
2. Sabre,
3. World span,
4. Abacus and
5. Galileo.

This unit will focus on Understand and analyse the business process and their offerings of the major GDSs to the Global tourism market. Each of these five distribution systems will be analysed in terms of the structure, service, performance and their competitive advantage in the market. The unit will also compare and contrast each of their accessibility and networking used for business operations.

CASE 1: AMADEUS

Overview of Amadeus

Founded in 1987 by Air France, Iberia, Lufthansa, and SAS, Amadeus is the youngest of the four GDS companies. Amadeus is a leading global distribution system and technology provider serving the marketing, sales, and distribution needs of the world's travel and tourism industries.

Its comprehensive data network and database, among the largest of their kind in Europe, serve more than 57,000 travel agency locations and more than 10,500 airline sales offices in some 200 markets worldwide. The system can also provide access to approximately 58,000 hotels and 50 car rental companies serving some 24,000 locations, as well as other provider groups, including ferry, rail, and cruise, insurance, and tour operators.

They are the leading transaction processor for the global travel and tourism industry, providing transaction processing power and technology solutions to both travel providers (including full service carriers and low-cost airlines, hotels, rail operators, cruise and ferry operators, car rental companies, travel insurance companies and tour operators) and travel agencies (both online and offline).

The company acts both as a worldwide network connecting travel providers and travel agencies through a highly effective processing platform for the distribution of travel products and services (through our Distribution business), and as a provider of a comprehensive portfolio of IT solutions which automate certain mission-critical business processes, such as reservations, inventory management and operations for travel providers (through our IT solutions business).

Corporate Preview

Upon its inception, Air France, Iberia, Lufthansa and SAS held equal shares of Amadeus Global Travel Distribution S.A. Shortly after the formation of the company, however, SAS sold its shares to Amadeus Data Processing. The three founder airline shareholders currently hold 59.92% of the company: Air France (23.36%), Iberia (18.28%), and Lufthansa (18.28%). Remaining shares are held publicly(Das 2009).

The Amadeus group has three primary corporate headquarters. Their data processing division, product research and development division and the official corporate headquarters are located in three different regions of Europe (Amadeus 2009).

Market Size

Amadeus is offering to marketing, sales, and the distribution services of the travel and tourism sectors. The database of this system is one of the largest in the world, as it operates in over 15,000 markets (Amadeus 2009) and contains more than 57,000 travel agencies sites, and also 10,500 airline sales office spread in 200 markets across the world (Das 2009).

Along with that they have also developed a new system; made operational in 2007, their new system features a "next generation distribution technology platform" which operates based on open systems technology; the upgraded technology can now access 78,000 hotels (Amadeus 2009), up from 58,000 hotels and 50 car rental firms, among other services (Das 2009).

Products and Services Offered

Amadeus provides a range of technologies designed to deliver tangible results in the travel & tourism industry. The category of clients and the services rendered are listed below.

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i. **Travel Providers**
   ➢ Airlines: network airlines, regional airlines, low cost and leisure carriers
   ➢ Hotels: chains, representation companies, and independent hoteliers
   ➢ Ground & Maritime: car rental, railway, ferry, cruise and insurance companies
   ➢ Tour operators**:** specialty, mass-market and vertically-integrated tour operators

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ii. **Travel Sellers**
   ➢ Travel Agencies: including travel management companies, business and leisure travel agencies of all sizes, online travel agencies and consolidators

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iii. **Travel buyers**
   ➢ Corporations: self-booking solutions for companies looking to maximise value from
   ➢ their travel spend.
   ➢ Travellers : trip planning and checking through amadeus.net and Amadeus checkmytrip.com

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Amadeus- Client categories and the services offered

Source: Amadeus (2009).

AMADEUS enables the traveller to organise the trips from A to Z through one and unique website (Figure).

| Flights | Hotels | Cars | Trip tools | Activities |

Flights	This application allows the customers to find flight availability, flight timetables and flight status
Hotels	This application enables the guests to find the best hotel rates among 400 different destinations.
Cars	This application gives the clients the best car rent rates among where and whenever they want to be picked up.

Amadeus Web Link- Example of Customer services
Source: Amadeus (2009)

Performance

As the youngest of the four GDS companies, Amadeus has done remarkably well during its short tenure. Yet, in many ways, the company remains an anomaly. Amadeus has the greatest number of travel agency locations with the highest productivity per terminal in the world, yet its booking share is Number 3, and its revenues are dwarfed by Sabre and, to a lesser degree, by Galileo. While the company is Number 1 in locations worldwide, serving the greatest number of countries, it provides the fewest U.S. destinations of the top four GDSs.

As with its competitors, the future for Amadeus will continue to be linked to the technological and structural changes that are revolutionizing the travel industry. Amadeus appears to be adapting well (albeit cautiously) to the shift of business to the Internet. Having acquired e-Travel, Inc. from Oracle Corporation in July of 2001, Amadeus now has a new business unit dedicated to delivering solutions to e-commerce players worldwide. The e-Travel solutions integrate all components of a managed travel program into a single Internet-based service that enables travellers to book air, car, hotel, and rail services, all within corporate guidelines. With its strong company infrastructure worldwide, impressive product set, and growing customer base, Amadeus is one of the most significant players in shaping the future of the GDS (Amadeus 2009).
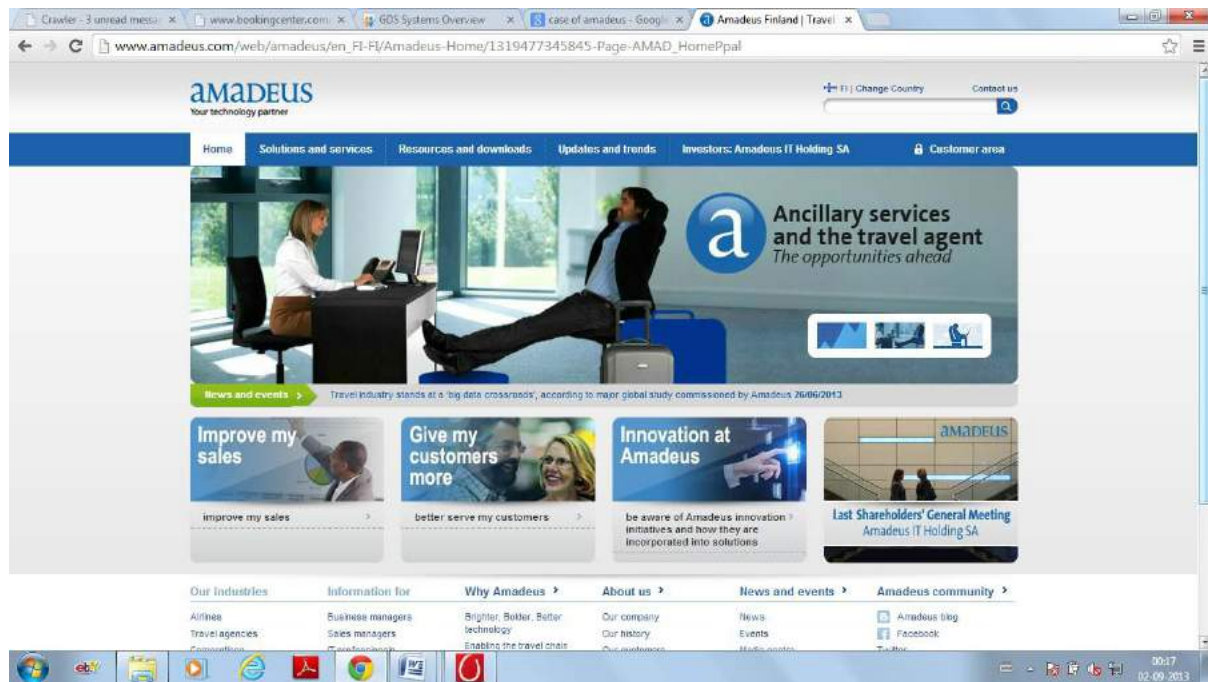
Amadeus – Homepage

Competitive Strength

Amadeus has an advantage over the other systems because of having access to the most travel agency sites. Also the Amadeus system has the most productive system platform in the world. In July 2001 Amadeus has purchased e-Travel, Inc. At the same time the company has made the business unit and this unit is working through e-Travel to give more business to corporate clients (Amadeus 2009).

CASE 2: GALILEO

Overview of GALILEO

Galileo began in 1993, when British Airways, KLM (a Dutch airline) and United joined forces to create a computer reservation system. The Apollo system that United had developed during the '70s became the basis for the new consortium.It was founded 11 major North American and European airlines: Aer Lingus, Air Canada, Alitalia, Austrian Airlines, British Airways, KLM Royal Dutch Airlines, Olympic Airlines, Swissair, TAP Air Portugal, United Airlines, and US Airways. It is a major player in the GDS business throughout the world: North America, Europe, the Middle East, Africa, and the Asia/ Pacific region. Galileo International is a diversified, global technology leader. Its core business is providing electronic global distribution services for the travel industry through

its computerized reservation systems, leading-edge products and innovative Internet-based solutions. Galileo is a value-added distributor of travel inventory dedicated to supporting its travel agency and corporate customers and, through them, expanding traveller choice.

Corporate Preview

Galileo is owned by Travel port, an international company headquartered in New York. Travel port specializes in travel-based services and has a gross annual income of more than 2 billion dollars. In 1997, Galileo International became a publicly traded company, listed on the New York and Chicago Stock Exchanges. In October of 2001, Cendant Corporation acquired Galileo International for approximately $1.8 billion in common stock and cash. Currently, the company is represented in 116 countries, and serves travel agencies at approximately 45,000 locations. Other travel suppliers include 500 airlines, 227 hotel companies, 33 car rental companies, and 368 tour operators.

Products &Services

Galileo provides global distribution system (GDS) services for the travel industry through.

Galileo Desktop 2.0	Galileo Desktop is a sophisticated global reservation, business management and productivity system.
Galileo e-Tracker	A simple to use, web-based tool that enables agents to check all electronic tickets issued via Galileo.
Travel port Smart point	The latest version of Travel port's point and click technology. It evolves the Galileo Desktop with dynamic and interactive technology that improves travel agents productivity and customer service.
Travel port View Trip	A comprehensive online travel resource providing agencies and their customers with direct access to their own personal travel itinerary, electronic ticket records and electronic expense receipts, including the ability to retrieve, review, print and e-mail data from any internet-enabled location.
Galileo Integrated Data Source	is a structured data stream which collects core PNR data from the Apollo and Galileo host systems to enable customers to manage pre and post trip reporting to effectively control travel budgets and business operations.

Travel port e-Pricing	Technology has revolutionized the worldwide travel shopping experience. It is built upon the first multi-server based shopping technology in the global distribution system (GDS) industry. It allows travel agencies, corporate travel buyers and online shoppers to shop, price and book low fares faster and more accurately than ever before.
Travel port Rapid RE price	Automates the complex itinerary re-pricing function allowing agents to efficiently re-price a ticket in a matter of seconds. The whole process of locating original ticket data, interpreting and applying fare rules correctly, building new fares and exchanging the tickets is automated.
Automated Exchanges and Refunds (ARNE)	Fully automates ticket exchanges and refund calculations. Validates change penalties and change fees.
E-Learning	Designed for busy professionals with comprehensive information about Ticketing solutions Focal point Shopping, hotel bookings, car rental or any other related services. Equip you with everything you need to know about ticketing solutions,
Galileo Custom Check	A proven quality control solution that comes into play at the point of sale, ensuring that your bookings adhere to corporate or agency policies – prior to ending a transaction and ticketing. Custom Check is available to subscribers of the Galileo and Apollo global distribution systems (GDS).
Galileo Web Services (GWS)	An application program interface (API) that enables customers to build an interface such as a website, connected to the Galileo GDS. Through GWS, travel companies can easily integrate Galileo travel content with their own systems to create their own website and grow their business.

Competitive Strength

Galileo's competitive strengths include market share, well-balanced and global presence, relationships with diverse groups of travel vendors, technologically advanced information systems, highly skilled personnel, and a stable product line. Compared to other GDS companies, Galileo is a cautious follower when it comes to technology. However, in response to the growing demand of web-based travel, the company has established successful

relationships with entities such as Go, UK's best low-cost airline; subsidiaries such as High wire, Inc., providing Internet-based tools and services to the corporate travel market; and Sheperd Systems, an industry leader in the provision of sales and marketing intelligence systems and services within the travel industry. Additionally, Galileo has sponsored membership to the THOR Worldwide Negotiated Hotel Rates Program, and has a state-of-the-art development centre supplying information and systems support to travel agencies operating more than 178,000 computer terminals, all of which are linked to the Galileo's Data Centre. Singular focus on the distribution side of the business is also its perceived strength. Based on its competitive strengths, Galileo is pursuing a strategy that includes expanding its global distribution, strengthening customer loyalty, leveraging technology, and capitalizing on opportunities created by increasing Internet use. Galileo sees the GDS industry as having the ability and potential to provide electronic distribution and many components of e-commerce to other industries, and is utilizing its strengths to provide expanding services to its growing customer base.

CASE 3: SABRE

Overview of SABRE

For more than 40 years, Sabre has been developing innovations and transforming the business of travel. From the original Sabre computer reservations system in the 1960s, to advanced airline yield management systems in the 1980s, to leading travel web sites today, Sabre technology has travelled through time, around the world, and has touched all points of the travel industry.

Corporate Preview

In July of 1996, Sabre became a separate legal entity of AMR (parent company of American Airlines), followed by a successful initial public offering in October in which AMR released approximately 18% of its shares to be publicly traded. Sabre, represented in 45 countries, is a leading provider of technology for the travel industry and provides innovative products that enable travel commerce and services, and enhance airline/supplier operations.

Headquartered in Southlake, Texas, Sabre connects more than 60,000 travel agency locations around the world, providing content from approximately 400 airlines, 55,000 hotel properties, 52 car rental companies, 9 cruise lines, 33 railroads, and 229 tour operators. In addition to being one of the leading GDS companies, Sabre also provides a broad range of

products and services that enhance travel agency operations and their ability to serve the traveler.

Sabre-connected travel agencies use Sabre web- based technologies and low-fare finding solutions to create new sales opportunities, drive operational efficiencies, and improve customer service. Among the company's recent innovations is Sabre Virtually There, a personalized web site service that automatically gives travelers up-to-the-minute details about itineraries, while also providing a wealth of information about their destinations. Sabre owns Travelocity.com, the industry's leading online consumer travel web site. In 2001, Travelocity.com's 32 million members used the site, generating more than $300 million in revenues. Travelocity.com offers innovative technologies that help consumers find the best air, car, hotel, and vacation reservations. Sabre also owns Get There, a provider of web-based corporate travel procurement, including the purchase of air, hotel, car, and meeting planning services. Customers include more than 800 leading corporations. (*www. sabreairlinesolutions.com)*

SABRE Homepage - services

Services- Key capabilities of SABRE

This section of the case explains various services and solutions offered by the SABRE. The key capabilities to cater their clients range from marketing activities to enterprise operations Figure, Figure and Figure exhibits the key capabilities to offer customers solutions.

Sabre-Marketing & Planning key capabilities

Source: www.sabreairlinesolutions.com

The exhibit above (Figure) denotes the marketing and planning capabilities of Sabre in the area of market analysis, Pricing, Revenue accounting, In-flight and catering and Cargo Management**.**

Sabre- Customer Sales & Service key capabilities

Source: www.sabreairlinesolutions.com

The customer sales and service capabilities (Figure) of the SABRE GDS are in the area of reservation and ticketing, inventory and revenue optimisation, departure control and self-service tools, Shopping and Merchandising, E-commerce and customer Data and insight.

Sabre- Enterprise Operations Key capabilities

Source: www.sabreairlinesolutions.com

The SABRE also owns enterprise capabilities that can support the clients and customer in the area of Flight operations, Operation Control centre, Airport Operations, Crew Management and Maintenance Routing.

Competitive Strength

Sabre's competitive strengths include market position, global reach, stable product line, diversification of revenue streams, and intellectual capital. The Sabre business model is a strong one, and continues to make significant progress in advancing both its electronic travel distribution and its information technology solutions businesses. Revenues have been growing steadily, and the company has embarked on a strategy that fully embraces diversification of its customer base and revenue streams. Sabre is considered to be one of the most significant and competitive GDSs due to the fact that it anticipates and takes advantage of the changes in the information economy and develop innovative practices, leveraging both human resources and technology systems.

CASE 4: Worldspan

Overview

Founded February 7, 1990, World span was originally owned by affiliates of Delta Air Lines, Inc., Northwest Airlines, and Trans World Airlines, Inc. It is the technology leader in Web-based travel e-commerce, offering solutions for conducting all facets of travel business in the online channel. As a leading global distribution system (GDS), World span provides travel distribution, technologies and services for thousands of travel companies worldwide, including travel agencies, corporations, travel suppliers and travel Web sites. World span transforms global travel distribution and transaction processing with industry-first fares, pricing, shopping and booking technologies, and a portfolio of interactive shopping tools that enable travel companies to reduce costs, increase productivity and build revenues (Samipatra Das, 2002).

Corporate Preview

It is currently owned by affiliates of Delta Air Lines, Inc. (40%), North west Airlines (34%), and American Airlines, Inc. (26%). Since its 1995 advance into the world of Internet technology for the travel industry, World span has successfully developed the strategies, solutions, and services to ensure the company's long-term success in the new web-based world of travel distribution. World span currently serves 20,021 travel agencies in nearly 90 countries and territories.

Headquartered in Atlanta, Georgia, World span connects approximately 421 airlines, 210 hotel companies, 40 car rental companies, 39 tour and vacation operators, and 44 special travel service suppliers. To escalate the delivery of web-based technologies and services to its customers; World span has forged a number of new partnerships and equity agreements with leading travel technology companies. Resulting technologies, joint developments, and an expanded realm of solutions and Internet travel products are enabling the company and its customers to participate in a spectrum of e-business opportunities. Some of the successful partnerships have been with companies such as Data lex, a leading provider of e-business infrastructure and solutions for the global travel industry; Digital Travel, a global online tour provider; Kinetics, Inc., developer of technology and solutions for the airline industry; OpenTable.com, an Internet-enabled restaurant management tools system; and Viator, a major provider of Internet-based content, technology, and distribution services, including data management, hosting, and e-commerce. Additionally, in 2001, Orbitz LLC was launched on the Internet; using World span as its Internet Booking Engine, and in 2002, the launch of World span Pricing SM made World span the first GDS to introduce a

revolutionary new multi-server-based technology, offering an unprecedented selection of pricing options to all of World span's customers (Samipatra Das, 2002).

Product Solutions and Services

World span provides worldwide electronic distribution of travel information, Internet products and connectivity, and e-commerce capabilities for travel agencies, travel service providers, and corporations. Some of the major services and solutions offered by the World span are listed in Figure.

World span Go	World span Go! brings a spectrum of travel planning and management solutions to your desktop, combining browser-based travel technologies and the power of the World span GDS.
World span Airline Source	Airline Source is the highest level of connectivity for your airline in the World span GDS.
World span Fare Source	World span Fare Source is one of the most comprehensive and accurate fares and pricing solutions for airlines worldwide.
World span Hotel Distribution Solutions	World span's industry-leading technologies for hotel distribution, shopping and booking include the GDS- based World span Hotel Select system and integrated Web-based tools.
World span Interactive Maps for Hotels	World span Interactive Maps for Hotels is the advanced shopping and booking solution that lets users shop, price, compare and book hotels in a visual environment.
World span Car Rental Distribution Solutions	World span's leading technologies for car rental distribution, shopping and booking include World span Car Select and integrated Web-based tools.
World span XML pro	World span XML Pro is the leading global data exchange tool for building fully functional travel applications and establishing GDS direct connects via the Internet.

Services offered by the World span
Source: (Samipatra Das, 2002).

Competitive Strength

World span has a legacy of industry firsts that are not well known. The company therefore has an opportunity to raise the industry's awareness of its accomplishments and

more importantly, its future strategy. World span continues to look at benefits of creating its own consumer brand and has been partnering with different companies to expand the services that it can provide to its customer base. World span believes in focusing on its core competencies, and is determined to be perceived as a distribution facilitator across all channels. It is increasingly getting a clearer sense of its capabilities and building its appetite for technical and commercial challenges. Through the company's revolutionary e-world ideas, offerings, and services, along with its agility and eagerness in meeting the needs of the travel distribution market on a global scale, World span and its customers are transforming the way travel is distributed, bought, and sold (*Samipatra Das, 2002*).

CASE 5: ABACUS

Overview

Abacus is Asia's leading travel solutions and services provider, specializing in the complex and ever-changing Asian travel marketplace. Asia's travel industry, specifically, is very dynamic and needs a travel services provider who is in tune with the region and the needs of travellers in that part of the world. Abacus has been in the business of travel solutions since 1988 and is dedicated to insuring the needs of travellers in the Far East market are met with efficiency and accuracy. An in depth understanding of the local market allows the travel experts with Abacus to provide services geared especially for the Asian market. Abacus fuses end-to-end technologies to create a differentiated portfolio of solutions and services driven by insights on how travel business operates in Asia Pacific. We help our travel partners create better customer experiences, optimise business operations and enhance competitiveness. Over the decades, Abacus has expanded its footprint to 31 markets and over 20,000 agency locations across Asia Pacific. IT has been inducted into the TTG Hall of Fame in 2009 and the winner of Travel Weekly China's award for 'Best New Technology' from 2007 to 2011 and 2013(http://www.abacus.com.sg/about.html).

Corporate Overview

Core to the Abacus business is our constant drive to provide tailored support and service to each individual market. To-date, a total of US$175 million has been invested to develop, localise and enhance solutions to meet the needs of each market. Abacus International is owned by a consortium of Asia's leading airlines including All Nippon Airways, Cathay Pacific, China Airlines, EVA Airways, Garuda Indonesia, Dragon Air, Philippine Airlines, Malaysia Airlines, Royal Brunei Airlines, Silk Air and Singapore Airlines. Abacus is also backed by US owned Sabre, the global leader in the electronic distribution of travel and travel related services (http://www.abacus.com.sg/about.html).

Competitive Advantage

Abacus is able to provide travel agencies with the software and technologies to go into the online world with ease, affordability and scalability. Abacus Web Start enables travel agencies to provide fare search, reservation and booking capabilities with less effort and cost than many other software services. It is essential, in today's market, for any travel affiliate or travel agencies to have an online presence in the travel market. Abacus is able to link any travel affiliate with the Asian travel market and support all aspects of traveller's need

Services Offered

Abacus works closely with many key partners in the industry to provide an expansive portfolio of specialised products and services to support every travel agency segment including online, corporate and leisure.(http://www.abacus.com.sg/about.html).

Conclusion

This unit has discussed the functions and critical aspects of the five major distribution systems across the world. Though each of these systems enjoys unique business competitiveness, they are all different in terms of each other in the way they manage the stakeholder and operate in the market. Going my the market and the trends in the tourism industry these models have to work out on more effective as they will be facing some serious threats in terms of cost and various other cultural aspects. Only the GDS companies that are willing to continuously learn and change according to the requirement of the market will be able to survive the competition and succeed in the long run.

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Lesson 2.3 - Business Models of Global Distribution Systems (GDS)

Learning Objectives

After completing this chapter the students will be able to

➢ Understand various models of the GDSs and the developments therein

➢ Will gain information about various factors those influence the GDSs in the dynamics of their business models

➢ Acquire knowledge on the factor influencing the model of the GDSs.

➢ Know the importance of Business Model to attain efficiency.

Introduction

The previous unit offers information about major GDSs operating across the world. It clarified their services and solutions apart from their special features and the corporate structure and various other components in order understand the operations of those companies. Following that unit, here it is offered to understand their business models being used to operate in their given environment apart from explaining the changes happened in their business design and its features.

Many organisations do not work with same business models due to the environmental pressure that keeps changing rapidly. In order to cope up with the changing pace and expectation of the markets these GDSs keep aligning or changing their business models to ensure offering products and services that matches the needs and requirements of the customers across the World.

It is not just the company decides to change or redesign the model overnight, it takes time in doing so and involves lots of analysis and input from various critical factors in designing the new models of the business. This unit will offer the dynamic of the changes and existence of the business models of various GDSs and its critical factors. To explain the changing models, the examples of various major GDSs are taken into consideration for better understanding.

Traditional Models-Hospitality Distribution Systems

According to Emmer *et al.* (1993) the models includes different EDCs, e.g. Switch and GDSs. They divided the ED process into five phases. These phases were: hotels; CRO or Rep Company; Switch Method; computer-reservation system (they identified in this phase telephone link); and travel retailers and corporations (see figure). However Emmer *et al.* (1993) did not include many types of channels which appeared later in the market (e.g. online travel agencies and hotel website)
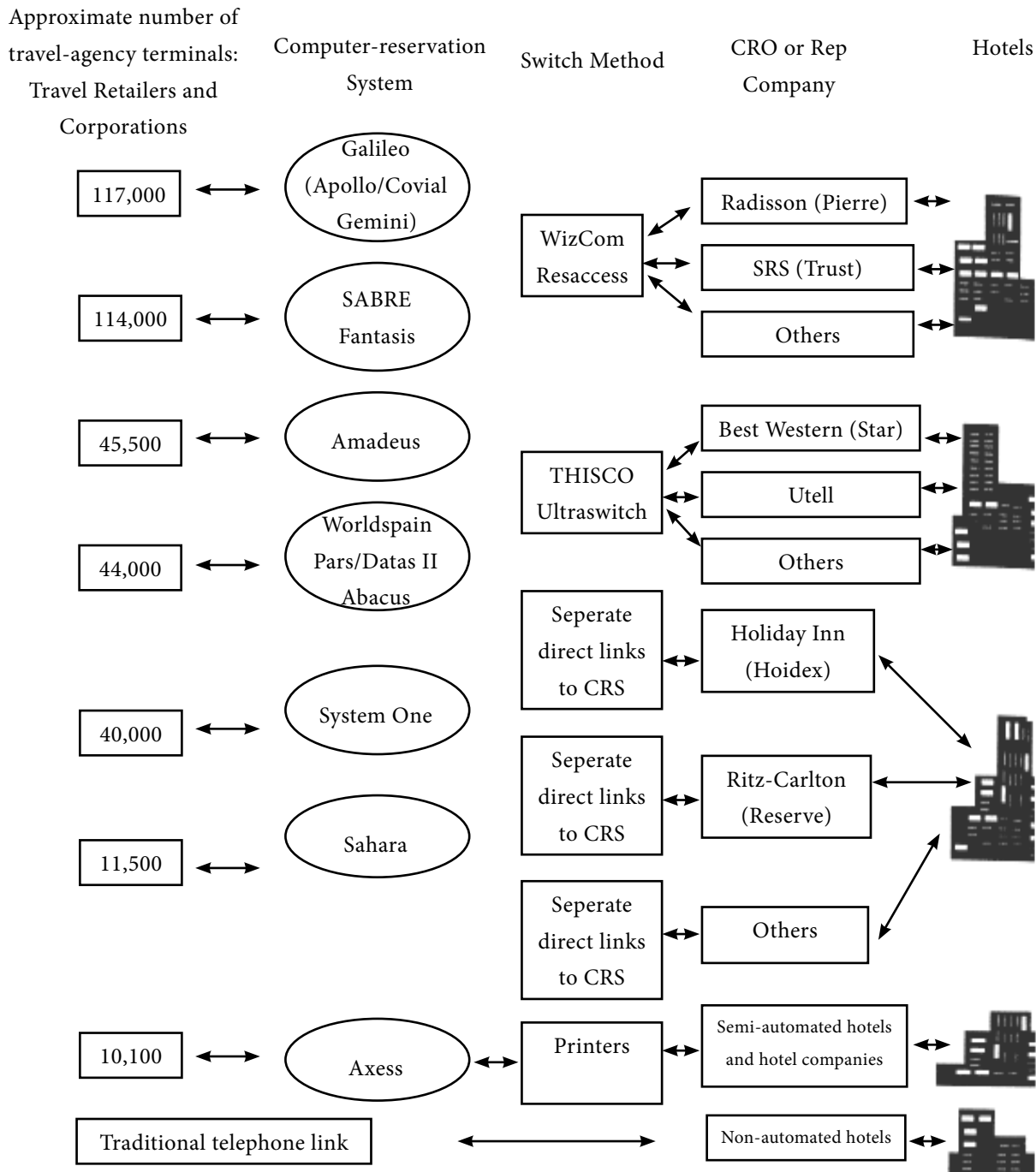
Overview of GDS Model by Emmar et al. (1993)

Source: Emmer et al. (1993)

Later Bowie and Buttle (2004) identified key hotel distribution channels as including: direct to customer; referral network; travel agent; tour operator. However they did not use the terms disintermediation and re-intermediation and made no mention of EDCs.The distribution model identifies disintermediation and re-intermediation (figure).

Re-Intermediation

Approximate number of travel-agency terminals: Travel Retailers and Corporations	Computer-reservation System	Switch Method	CRO or Rep Company	Hotels
117,000	Galileo (Apollo/Covial Gemini)	WizCom Resaccess	Radisson (Pierre)	
			SRS (Trust)	
114,000	SABRE Fantasis		Others	
45,500	Amadeus	THISCO Ultraswitch	Best Western (Star)	
			Utell	
44,000	Worldspain Pars/Datas II Abacus		Others	
		Seperate direct links to CRS	Holiday Inn (Hoidex)	
40,000	System One			
		Seperate direct links to CRS	Ritz-Carlton (Reserve)	
11,500	Sahara			
		Seperate direct links to CRS	Others	
10,100	Axess	Printers	Semi-automated hotels and hotel companies	

DisIntermediation

Traditional telephone link		Non-automated hotels

Disintermediation and Re-intermediation at Emmer *et al.*'s (1993) Model

Source: *Adopted from Emmer et al. (1993)*

Man literatures and other resources show that Bowie and Buttle (2004) identified key hotel distribution channels as including: direct to customer; referral network; travel agent; tour operator. However they did not use the terms disintermediation and re-intermediation and made no mention of EDCs (Turban *et al.*, 2006).

Choi and Kimes (2002) did not divide EDCs into phases. They identified four EDCs (online agents, GDS; Switch; CRS) linked to a Property Management System (PMS) (figure). This model excludes any hotel without a property management system. Their model is customer-centric and represents a customer looking for a hotel. In their model they limited travel agents` ability to book a customer into a hotel unless this hotel had a link with a GDS. Choi and Kimes (2002) did not include a direct link from the GDS to the hotel. It is important to note that hotels do not necessarily need a switch system if they are connected to only one GDS as the function of the switch system is to facilitate the uploading of hotel information to multiple GDSs.
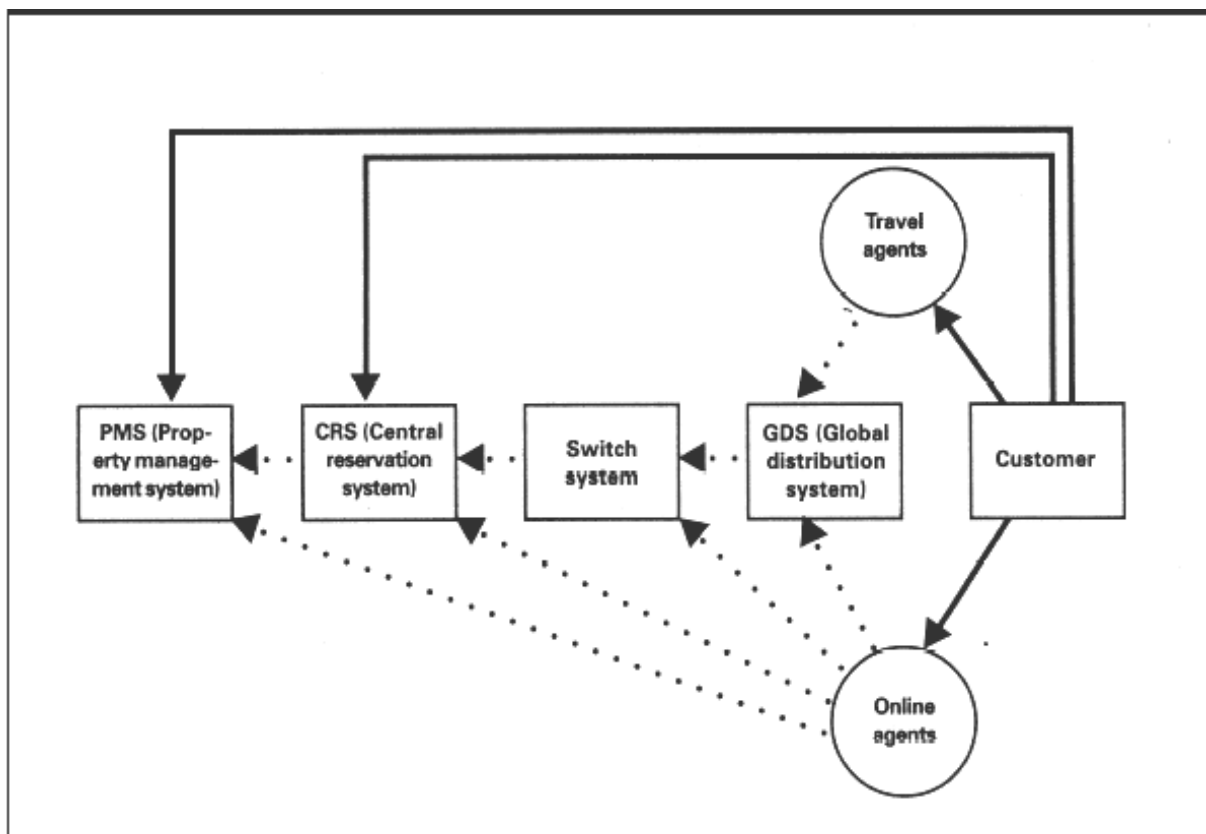
Hotel Distribution Channel
Source: Choi and Kimes (2002)

Nassar's (2002) model presented an attractive picture of hotel distribution to the reader although he did not explain how these channels work and how they exchange information (Figure). Nassar built it as a customer looking for a hotel as his research focused

on hotel websites. He classified channels as direct and indirect. Indirect channels could be offline and online. The indirect online channels were categorised as internet intermediaries and no internet presence i.e. hotel broker and travel agency. He struggled to include all the other channels in his term "third – party sites and portals". This model summarised hotel distribution channels and gave a brief idea about the distribution of hospitality products but neglected to show how these distribution channels worked together and the information flows from hotel to customer.
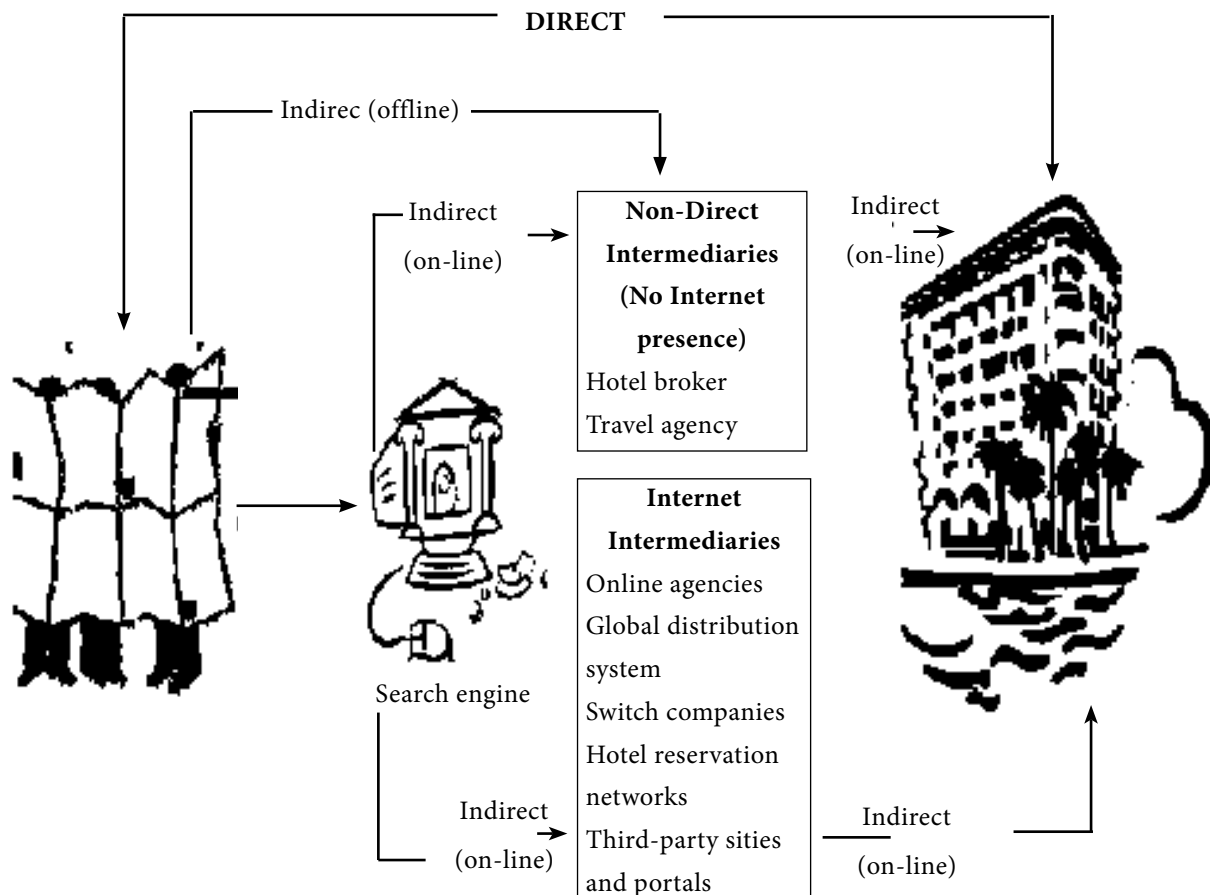
Nassar's(2002) Distribution Option for Hospitality Industry

Source: Nassar (2002)

Changing Hospitality Distribution Model

The previous section exhibits the traditional distribution models that do not include travel and tourism integrations. Later, distribution model was presented by Hudson (2008) in his work on tourism destination marketing (figure) that includes components of travel and tourism. He drew the information flow starting from the customer to an individual operator website. He mentioned certain details regarding the browser and search engine which were used by customers. These two boxes could not be considered as distribution channels. Even if these two were considered as intermediaries, he neglected to draw an arrow

from "search engine" to corporate website which was presented as a chain hotel website. This missing arrow could help hoteliers or destinations to enhance their position in the market or to save some money which they would pay for intermediaries. The hotel or destination would save money if they can optimise their use of search engines to secure a high rank position. "Via cross marketing" highlights the importance of building relationships with other websites and is a tactic was used by sillyjokes.com -one of the 2004 e-commerce award winners in UK - to increase the number of hits on its property website. Most of the online intermediaries could be summarised under "electronic brokers" although merging these complicated concepts into one box would hide a lot of information that would be useful for hoteliers. One of the channels that might be hidden or missed was GDS. As this model represented intermediaries involved in the online distribution, it neglected to represent the direct link between the customer and the individual operator website.
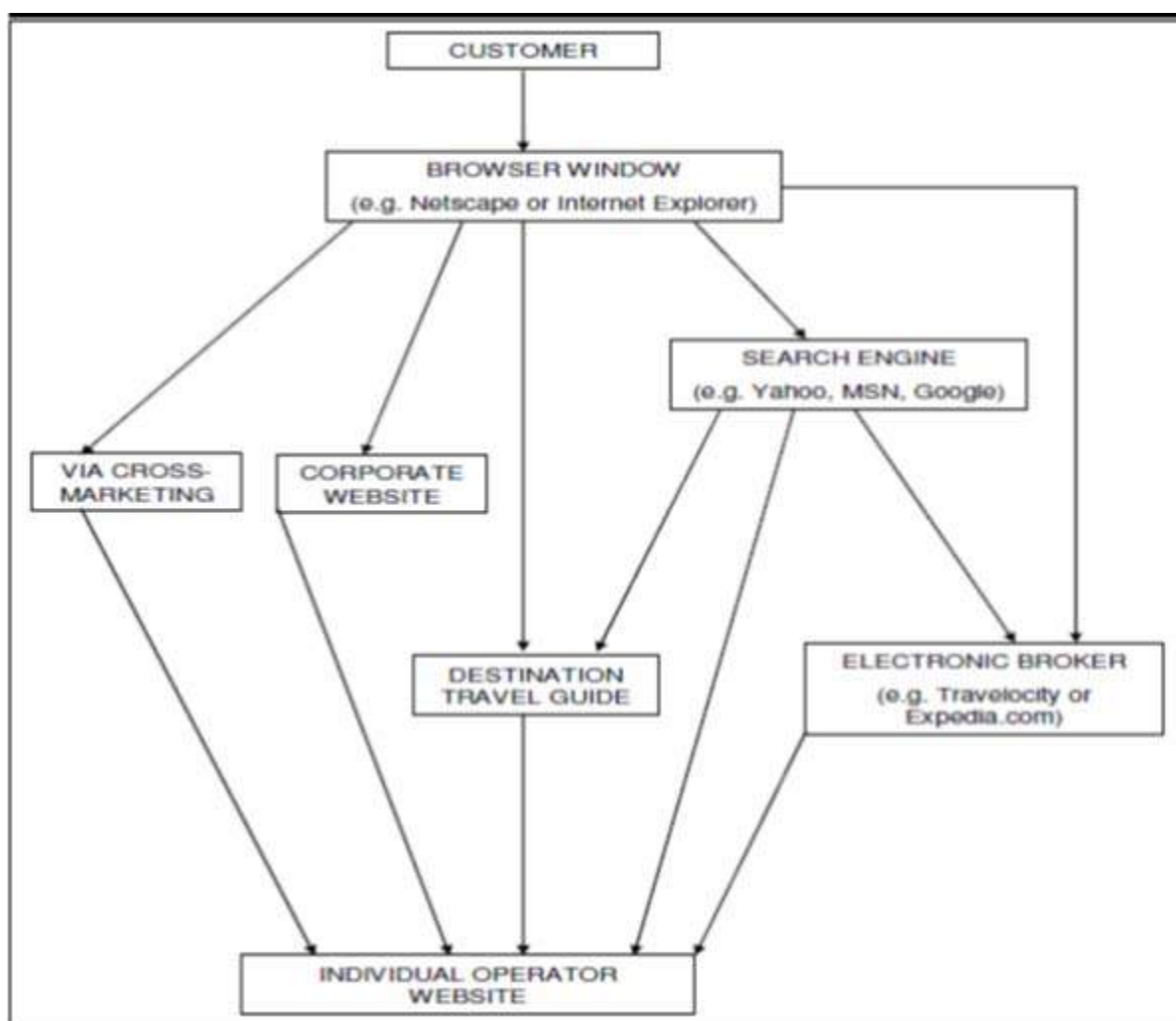
Hudson's (2008) Intermediaries Involved in the Online Distribution of Destination Tourism Products and Services.

Source: Hudson (2008)

O'Connor and Frew (2002) neglected to include mobile phones and IDTV. The reasons behind this could be that until recently mobile phones were not being used as an active online distribution channel and IDTV did not get involved in distribution. O'Connor and Frew (2002) tried to present in their model the relationships between hotels and EDCs and were also keen to draw the internal relationships between EDCs. They mentioned in their model CRS, GDS, GDS-based web site, Switch companies, Switch companies' website, DMS (Destination Management System), DMS web site, web intermediary, representative company, representative company web site and Tourist Information Centre (TIC) as EDCs. In addition they replaced NTOs, with DMS (figure) and called their model "Hotel electronic distribution" although they included non- EDCs e.g. TIC and Travel agents.
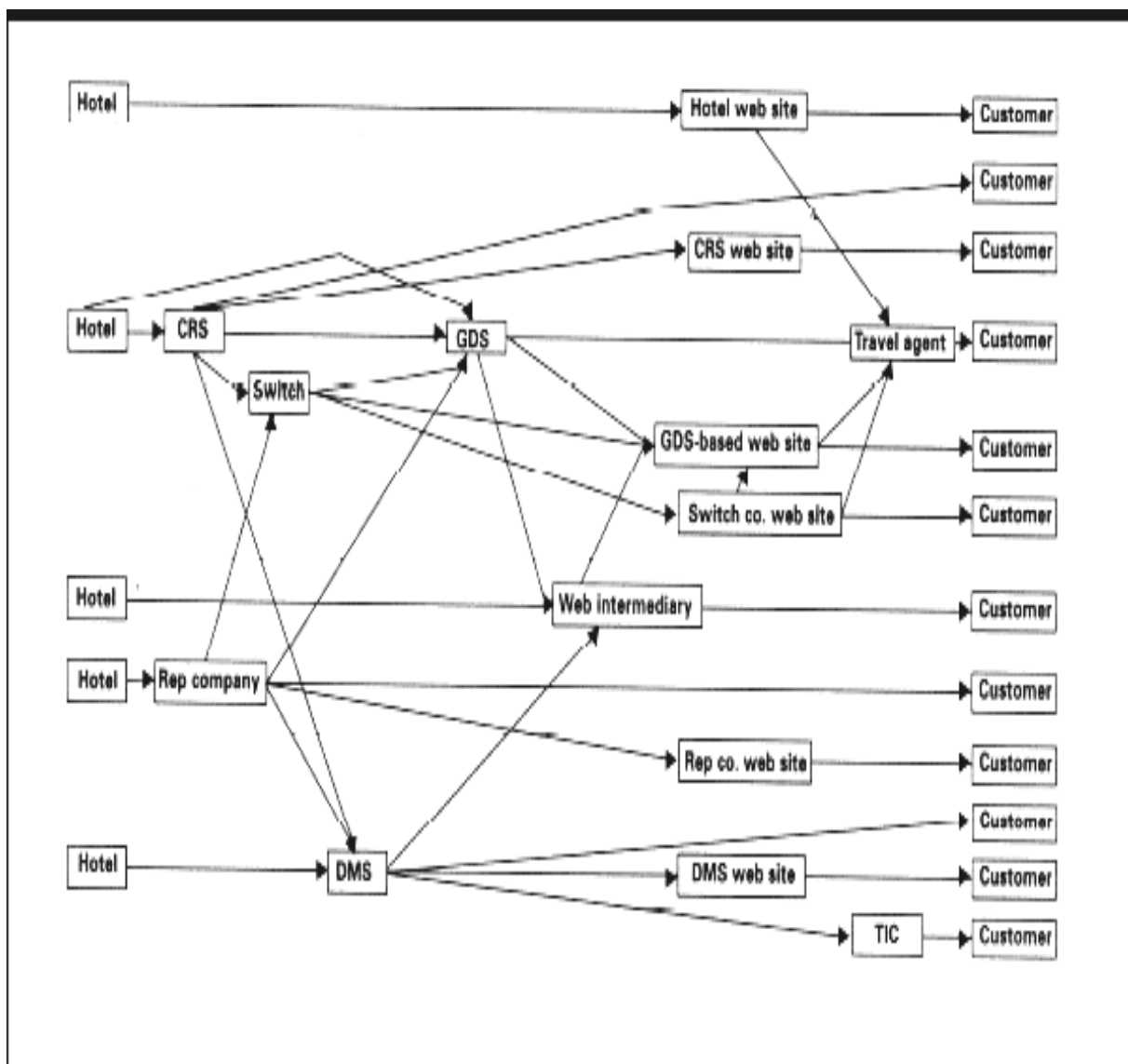
ED Network Model by O'Connor and Frew (2002)
Source: O'Connor and Frew (2002)

O'Connor and Piccoli (2003) mentioned examples in their model for most of the channels. They added airline sites, affiliates; web Switches, tour operators, chain website, hotel website and other on-line retailers to Choi and Kime's (2002) model.

They divided travel agents into two elements; 'travel agents' and 'travel agents websites'.
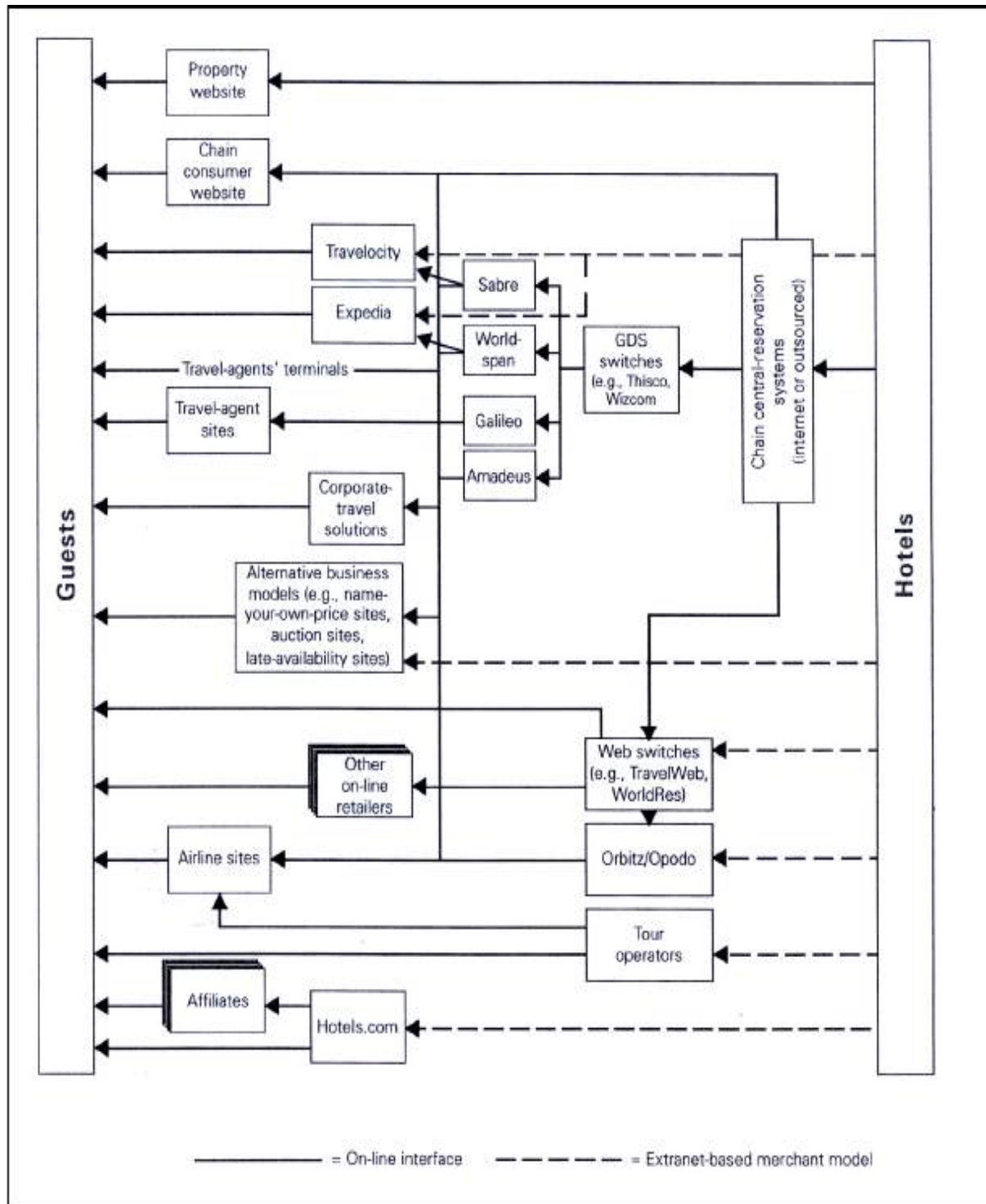
Global Distribution Network by O'Connor and Piccoli's (2003)

Source: O'Connor and Piccoli (2003)

They replaced the term "Property Management System" (PMS) in Choi and Kimes' model with "hotel" (see figure). O'Connor and Piccoli's (2003) model in comparison with O'Connor and Frew's (2002) omitted both DMSs and Tourist information centres (TICs) from the hotel distribution channels. Instead of listing GDS-based websites, they listed the names of these websites with arrows to different GDSs (e.g. Sabre, World span). O'Connor and Piccoli neglected to include a direct link from the hotel to the GDS.

In all previous models, the common comment was they failed to represent some channels (e.g. mobile phones, IDTV) or certain relationships. Presenting the nature of relationship between channels was crucial. A hotel distribution model was supposed to reflect the distribution environment to the reader and how hotels could deliver its products to customers.

The previous models needed to be updated with these neglected channels and relationships to present the current distribution environment to hoteliers or readers. These missed channels of distributions were critically important, whilst some of these channels have become more important and relationships have strengthened.

Evolving Airline Distribution Models

While price remains a key competitive factor, it is no longer the sole driver of low-cost carrier business strategies.

LCCs now focus on other areas, such as merchandising, multi-channel strategies and increasing partnerships. They also place more emphasis on:

➢ Maintaining low costs while compensating for rising costs of fuel and aircraft,

➢ Integrating new services into the current model and enhancing customer service, Crossing international borders and experimenting with long-haul segments,

➢ Expanding market opportunities such as increasing international reach and accessing the corporate segment by participating in a GDS.

With carriers veering from the fundamental low-cost strategy, it is no wonder that the low-cost business model has been difficult to define in recent years. The result of this shift is the emergence of the "hybrid" business model (Figure & figure). This model combines the cost-saving methodologies of a pure low-cost airline with the service, flexibility and route structure of a full-service carrier. (Figure & figure) demonstrates this phenomenon of evolving models based on three Carriers.*www.sabreairlinesolutions.com*

2008

	Low-cost carrier	Business model evolution	Full-service carrier
Network	Sub-regional network; short-haul, point-to-point	Mix of short- and long-haul / Inter-regional flights	Inter-regional; connecting flights
Fare Structure	Offers same fares to all customers, handful of fares	Differences by channel / Uses private fares and restrictions	Differs fares by customer/channel; has restrictions
Partnerships	No codesharing or interlining	Uses limited codesharing / Facilitates interlining	Some use of codesharing and interlining
Sales and Distribution	Direct sales only via website	Uses third-party aggregators / Relationships with travel agencies/corporations	Distributes through GDS
Operations	Operates single aircraft model; top quartile in costs	Uses mix of narrow- and wide-body models / Second quartile in cost performance	Mix of aircraft models; mid-range cost performance

● easyJet ● JetBlue ● Southwest

2010

	Low-cost carrier	Business model evolution	Full-service carrier
Network	Sub-regional network; short-haul, point-to-point	Mix of short- and long-haul / Inter-regional flights	Inter-regional; connecting flights
Fare Structure	Offers same fares to all customers, handful of fares	Differences by channel / Uses private fares and restrictions	Differs fares by customer/channel; has restrictions
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Sales and Distribution	Direct sales only via website	Uses third-party aggregators / Relationships with travel agencies/corporations	Distributes through GDS
Operations	Operates single aircraft model; top quartile in costs	Uses mix of narrow- and wide-body models / Second quartile in cost performance	Mix of aircraft models; mid-range cost performance

● easyJet ● JetBlue ● Southwest

Hybrid Model 2010

Source: www.sabreairlinesolutions.com

The trend toward a hybrid business model impacts the requirements for IT systems and drives the need for a more sophisticated and flexible technology environment. There are many reasons successful hybrid airline executives invest in leading-edge technology with the right technology partner, such as:

- Moving to a new passenger service system (PSS) that supports the current model as well as enables future capability requirements,

- Requiring technology to evolve and support the airline's scale of business,

- Requiring a provider with deep industry experience and sophisticated delivery methodology that meets current and future demands,

- Looking for greater revenue-producing code share and interline partnership opportunities,

- Expanding ancillary revenue,

- Identifying marketing opportunities to gain more accurate insight into customers' behaviour patterns and needs.*www.sabreairlinesolutions.com*

Therefore, as a hybrid carrier, it is crucial to acquire technology that "sets you free" to focus on your changing business challenges. With the right technology, hybrid carriers can propel their businesses forward, responding more quickly and effectively to changes than ever before.*www.sabreairlinesolutions.com*

Conclusion

The models are GDSs and other distribution system explained above are practiced currently but there are strong possibilities that these models keep evolving and changing accordingly as and when the industry is requires the change. As the dynamics and environment keeps demanding more and changing its nature, these models also keep evolving. Many organisations do not work with same business models due to the environmental pressure that keeps changing rapidly. In order to cope up with the changing pace and expectation of the markets these GDSs keep aligning or changing their business models to ensure offering products and services that matches the needs and requirements of the customers across the World.

Self Assessment Questions

1. What is Global Distribution system?
2. Explain the significance of GDSs to Indian Tourism Industry.
3. What are the functions of GDS?
4. Compare and contrast CRS and GDS.
5. Explain the two sides of GDS market.
6. Discuss the history and growth of GDSs.

7. How does CRS participate in e-tourism?

8. What are the Driving forces of GDS and CRS at Global stage?

9. How does a Hotel Distribution system function?

10. What are the values created by GDS to the tourism sector?

11. List down the major GDS that control the tourism market across the world.

12. Explain the contribution of SABRE GDS to the world Tourism industry.

13. Compare each of the major GDSs.

14. Explain the competitive advantage of World span in the tourism industry.

15. Critically analyse the Abacus and its association with various other partners to operate.

16. How do these GDSs integrate to operate in tourism industry?

17. Explain the traditional Hospitality distribution model

18. Explain the dis-intermediated model of distribution system.

19. What are the changing dynamics of these models?

20. Explain hybrid Airline distribution model.

21. Explain the comprehensive GDSs model.

CASE STUDY 3

Are GDS Pie-Eaters?

Today, airlines distribute and sell their products in two ways: through their websites/ call centers (direct channel) or through travel agents and online travel sites (indirect channel). Of the one billion or so airline tickets sold globally each year, it is estimated that more than 60% are sold through the airline indirect channel. In the vast majority of the world, Sabre, Amadeus, and Travelport control the distribution of the airline product for the indirect channel. The GDSs charge the airlines for each ticket sold through their systems, with the average charge being in the $12 per ticket range. Multiply that $12 by 600,000,000 tickets per year and you get about $7 billion dollars. From these funds, the GDS pay the travel agency or online travel site a financial assistance incentive.

As a general comparison, it costs airlines about $2 to $3 per ticket to sell through their own websites or using new direct connect technology available to them, their travel agency customers and even to the GDS. This provides an estimated 80% savings over the cost of the indirect channel. If the airline is paying $10 more per ticket to sell through the indirect channel, ultimately it's the consumer that pays for that higher cost.

The GDSs that are suppose to aid profit making of the tourism service providers (Airlines, Hotels, etc.) are eating up the profit. Are these GDSs eating up the pie of their clients in form of fees, Commission or charges, etc.? Critically analyse and suggest measures to make GDS economically efficient.

CASE STUDY 4:

President and CEO of Abacus, Robert Bailey, admits that the rise and rise of low cost carriers will inevitably lead to changes in the 40-year-old business model of Global Distribution Systems. "Low cost carriers will be a catalyst for change,"

Mr Bailey said."What the change will be I don't know." Mr Bailey said low cost carriers now comprise 25% to 26% of the available air seat capacity in Asia Pacific "and this can only grow" with the opening up of new regional markets and city pairs. But many low cost carriers don't want to do business with the GDS such as Abacus, Amadeus, Sabre which derive most of their revenue from charging traditional or legacy carriers around US$6 to US$8 per sector to distribute their airfares to travel agents.

This is a major issue for the GDS because 1. their main customers, legacy carriers, are in apparent decline and 2. The fastest growing sector of the aviation market, low cost carriers, in many cases does not want to pay their rates.

Some compromises have been reached with low cost carriers moving up the aviation food chain but fundamental differences remain. And it's not just all about cost. There are also technical and commission issues with the sale of ancillary products such as food, entertainment, even blankets – which is where many low cost carriers make most of their money – through intermediaries.

This attitude is not likely to change any time soon, even among carriers such as Scoot which are using the GDS to distribute. Steven Greenway, Scoot's Head of Commercial, recently told delegates at TRAVEL tech that: "Everyone still gets commission and I think that is pathetic". Anyway…

Despite the challenges ahead, Mr Bailey believes low cost carriers are ultimately a good thing for the travel industry, including the GDS. "Low cost carriers are going to grow

the pie, introducing new travellers to the mix" who will over time become more adventurous and wealthy and begin flying hybrid and full service carriers, My Bailey said.

"Where you have state-owned carrier competition you will never have a level playing field," he said.

Mr Bailey remains upbeat about the prospects of legacy carriers in the long haul arena despite some poor recent results from regional giants Singapore Airlines, Cathay Pacific and Qantas. "I think we are going to see some quite significant growth of traditional carriers," he said. However, it's a tough environment distorted by the presence of government-owned regional carriers without the same financial controls.

Source: Martin Kelly (2012)

http://www.traveltrends.biz/ttn555-changes-ahead-for-gds-business-model/

Critically evaluate the dynamics of the model issues and discuss the critical variables that need changes in the current environment.

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UNIT - III

Unit Structure

Lesson 3.1 - Typologies of E-Tourism

Learning Objectives

The objectives of this lesson are:

- ➢ To help you understand how to formulate e-Tourism Business model canvas
- ➢ To explain the role of e-Tourism intermediaries such as Global Distribution Systems, Meta search engines and so on.
- ➢ To highlight the current online travel industry scenario in India

After going through this lesson, you will be able to:

- ➢ Explain the business model of an e-Tourism business using the Business model canvas
- ➢ Appreciate the role played by intermediaries in e-Tourism ecosystem
- ➢ Identify and address the issues faced by different product categories within e-Tourism

Introduction

The emergence of the Internet has had an unprecedented impact on business in general, and on the tourism industry in particular. The information-intensive nature of the tourism industry and the perishable nature of tourism products are the crucial factors behind the rapid growth of Internet applications for travel and tourism.

Electronic commerce (e-commerce) is often thought simply to refer to buying and selling using the Internet; people immediately think of consumer retail purchases

from companies such as E-bay. But e-commerce involves much more than electronically mediated financial transactions between organizations and customers. E-commerce should be considered as all electronically mediated transactions between an organization and any third party it deals with. By this definition, non-financial transactions such as customer requests for further information would also be considered to be part of e-commerce.

A business model is a set of planned activities (sometimes referred to as business processes) designed to result in a profit in a marketplace. A business model is not always the same as a business strategy although in some cases they are very close insofar as the business model explicitly takes into account the competitive environment (Magretta, 2002). The business model is at the center of the business plan. A business plan is a document that describes a firm's business model. A business plan always takes into account the competitive environment. An e-commerce business model aims to use and leverage the unique qualities of the Internet and the World Wide Web (Timmers, 1998).

The Business Model Canvas can be illustrated here with an example from e-Tourism:

KEY PARTNERS	KEY ACTIVITIES	VALUE PROPOSITIONS	CUSTOMER RELATIONSHIPS	CUSTOMER SEGMENTS
Who are our key partners? Who are our key suppliers? Which key resources are we acquiring from our partners? Which key activities do partners perform?	What key activities do our value propositions require? Our distribution channels? Customer relationships? Revenue streams?	What value do we deliver to the customer? Which one of our customers' problems are we helping to solve? What bundles of products and services are we offering to each segment? Which customer needs are we satisfying? What is the minimum viable product?	How do we get, keep, and grow customers? Which customer relationships have we established? How are they integrated with the rest of our business model? How costly are they?	For whom are we creating value? Who are our most important customers? What are the customer archetypes?
	KEY RESOURCES What key resources do our value propositions require? Our distribution channels? Customer relationships? Revenue streams?		**CHANNELS** Through which channels do our customer segments want to be reached? How do other companies reach them now? Which ones work best? Which ones are most cost-efficient? How are we integrating them with customer routines?	

COST STRUCTURE	REVENUE STREAMS
What are the most important costs inherent to our business model? Which key resources are most expensive? Which key activities are most expensive?	For what value are our customers really willing to pay? For what do they currently pay? What is the revenue model? What are the pricing tactics?

E - Tourism Business Model Canvas

[*Source:* https://sites.google.com/site/etourismsite/e-commerce-typology]

A company's value proposition is at the very heart of its business model. A value proposition defines how a company's product or service fulfils the needs of customers (Kambil, Ginsberg, and Bloch, 1998). To develop and/or analyze a firm's value proposition, you need to understand why customers will choose to do business with the firm instead of another company and what the firm provides that other firms do not and cannot. From the consumer point of view, successful e-commerce value propositions include: personalization and customization of product offerings, reduction of product search costs, reduction of price discovery costs, and facilitation of transactions by managing product delivery (Kambil, 1997; Bakos, 1998).

A firm's revenue model describes how the firm will earn revenue, generate profits, and produce a superior return on invested capital. We use the terms revenue model and financial model interchangeably. The function of business organizations is both to generate profits and to produce returns on invested capital that exceed alternative investments. Profits alone are not sufficient to make a company "successful" (Porter, 1985). In order to be considered successful, a firm must produce returns greater than alternative investments. Firms that fail this test go out of existence.

Market opportunity refers to the company's intended market space(i.e., an area of actual or potential commercial value) and the overall potential financial opportunities available to the firm in that market space. The market opportunity is usually divided into smaller market niches. The realistic market opportunity is defined by the revenue potential in each of the market niches where you hope to compete.

A firm's competitive environment refers to the other companies selling similar products and operating in the same market space. It also refers to the presence of substitute products and potential new entrants to the market, as well as the power of customers and suppliers over your business. We discuss the firm's environment later in the chapter. The competitive environment for a company is influenced by several factors: how many competitors are active, how large their operations are, what the market share of each competitor is, how profitable these firms are, and how they price their products.

Firms typically have both direct and indirect competitors. Direct competitors are those companies that sell products and services that are very similar and into the same market segment. For example, Priceline and Travelocity, both of whom sell discount airline tickets online, are direct competitors because both companies sell identical products—cheap tickets. Indirect competitors are companies that may be in different industries but still compete indirectly because their products can substitute for one another. For instance,

automobile manufacturers and airline companies operate in different industries, but they still compete indirectly because they offer consumers alternative means of transportation.

The existence of a large number of competitors in any one segment may be a sign that the market is saturated and that it may be difficult to become profitable. On the other hand, a lack of competitors could either signal an untapped market niche ripe for the picking or a market that has already been tried without success because there is no money to be made. Analysis of the competitive environment can help you decide which it is.

Firms achieve a competitive advantage when they can produce a superior product and/or bring the product to market at a lower price than most, or all, of their competitors (Porter, 1985). Firms also compete on scope. Some firms can develop global markets, while other firms can only develop a national or regional market. Firms that can provide superior products at lowest cost on a global basis are truly advantaged.

Firms achieve competitive advantages because they have somehow been able to obtain differential access to the factors of production that are denied to their competitors—at least in the short term (Barney, 1991). Perhaps the firm has been able to obtain very favourable terms from suppliers, shippers, or sources of labour. Or perhaps the firm has more experienced, knowledgeable, and loyal employees than any competitors. Maybe the firm has a patent on a product that others cannot imitate, or access to investment capital through a network of former business colleagues or a brand name and popular image that other firms cannot duplicate.

An asymmetry exists whenever one participant in a market has more resources—financial backing, knowledge, information, and/or power—than other participants. Asymmetries lead to some firms having an edge over others, permitting them to come to market with better products, faster than competitors, and sometimes at lower cost.

One rather unique competitive advantage derives from being first mover. A first mover advantage is a competitive market advantage for a firm that results from being the first into a marketplace with a serviceable product or service. If first movers develop a loyal following or a unique interface that is difficult to imitate, they can sustain their first-mover advantage for long periods (Arthur, 1996).

No matter how tremendous a firm's qualities, its marketing strategy and execution are often just as important. The best business concept, or idea, will fail if it is not properly marketed to potential customers. Everything you do to promote your company's products and services to potential customers is known as marketing. Market strategy is the plan you

put together that details exactly how you intend to enter a new market and attract new customers. Although many entrepreneurial ventures are started by one visionary individual, it is rare that one person alone can grow an idea into a multi-million dollar company.

In most cases, fast-growth companies—especially e-commerce businesses—need employees and a set of business procedures. In short, all firms—new ones in particular—need an organization to efficiently implement their business plans and strategies. Many e-commerce firms and many traditional firms who attempt an e-commerce strategy have failed because they lacked the organizational structures and supportive cultural values required to support new forms of commerce (Kanter, 2001).

Arguably, the single most important element of a business model is the management team responsible for making the model work. A strong management team gives a model instant credibility to outside investors, immediate market-specific knowledge, and experience in implementing business plans. A strong management team may not be able to salvage a weak business model, but the team should be able to change the model and redefine the business as it becomes necessary. Eventually, most companies get to the point of having several senior executives or managers. How skilled managers are, however, can be a source of competitive advantage or disadvantage. The challenge is to find people who have both the experience and the ability to apply that experience to new situations.

E-Travel Intermediaries

A third party that offers an intermediation service between two trading parties is called an intermediary. The feasibility of intermediation as an industrial sector depends upon whether it adds any extra value to the original service that is tradable directly between the producer and the consumer.

Traditionally, travel agents exercised a great deal of control upon the trade given that the travel suppliers like hoteliers, airliners, and attraction owners, found it unviable to reach the customers directly. Likewise, even if the customers so wanted, it was difficult for them to fetch the prices and product features of competing services providers, make meaningful comparisons, and purchase the best offering. Middlemen like tour operating companies fulfilled another important function: the function of risk transfer. This means that these agencies promised some sort of relief to travelers from the various travel related risks. For example, when you go on a complicated international itinerary, you need not worry about visa formalities, airport transfers, local transportation, hotel rooms, excursion coupons, travel insurance, food, language barriers, tour guidance, etc if you prefer to make use of the service of a tour operator rather than preferring to go alone. A related value

addition provided by the tour operation was the intricate bundling together of a long chain of products and services that constituted the holiday experience.

With the advent of the internet, possibilities opened up for the customer to do most of the aforesaid without the help of an intermediary. Despite the value addition provided by the intermediaries, the lack of authentic and real time information at the reach of the customers made them vulnerable to the intermediaries. In the recent times, customers are increasingly being enabled by technological advancements to overcome this inherent bias that worked against their interests so far. This new wave of revolution is called disintermediation: the removal of intermediaries in a supply chain. This means buyers bypass the middlemen in order to buy directly from the service provider and thereby pay less.

Yet, disintermediation is not a one way trend: in the more recent times, new intermediaries have come up to the fill the opportunities created by disintermediation. Most of these new intermediaries provide what is known as the information overload reduction function. For example, imagine that all the fifty five airlines that operate between points A and B have their own direct booking facilities and a customer wants to find the best airline in terms of a number of variables. One option for him is to visit the fifty five websites, read the fine print, make a comparison chart, and make the decision. Another option for him is to visit a travel search engine like Kayak.com and specify your criteria. The latter simplifies the task of the customer a lot. The new generation intermediaries like Kayak.com are examples of re-intermediation.

The CRS / GDS Era

Begun in the 1960's, the Computerized Reservation System (CRS) represented an era of the travel trade wherein proprietary computer systems allowed travel agents real-time access to airline fares, schedules, and seating availability and offering the capability of booking reservations and generating tickets. If CRSs are owned by particular airliners, GDSs (Global Distribution System) are owned by a group of airliners. Thus, a CRS contained the flight availability data and booking capability for the particular airline that owned and distributed it where as GDS provided a pool into which the flight availability and booking data of all participating airlines were made available. Thus, GDS is an expansion of the CRS concept. Current GDSs are computer reservation systems that access many databases of accommodation providers, airlines, car rental firms, excursion providers, etc across the world. Most noted GDSS include Amadeus, Galileo, Sabre, and World span.

The GDSs are among the first e-commerce companies in the world facilitating B-2-B electronic commerce. Prior to this, travel agents spent an inordinate amount of time

manually entering reservations. The airlines realized that by automating the reservation process for travel agents, they could make the travel agents more productive and essentially turn into an extension of the airline's sales force. However, it must be noted that neither a CRS nor a GDS provided direct access to their databases to the end user. The travel agents continued to act as middlemen in the business, until the internet revolution shook the foundations of the trade. But, even now, it is these original, legacy GDSs that provide the backbone to the Internet based travel distribution systems. The major difference between the traditional GDSs and the internet based distribution systems is that the latter permits the customer to access the database unmediated by the travel agent.

Amadeus: A Case Study

Amadeus as an example for Global Distribution System (GDS)

[*Source:* http://www.amadeus.com/amadeus/x4846.html]

Amadeus was founded in 1987, when Air France, Lufthansa, Iberia, and SAS founded Amadeus as a Global Distribution System (GDS) company. The principal corporate, development and operational activities of Amadeus are divided between various

locations across the world with headquarters in Madrid, Spain; product development and product marketing office in Sophia Anti polis, France; data processing centre: in Erding, Germany; and IT services centers located in London, UK and Sydney, Australia. In 2000, Amadeus became the first GDS to receive the quality certification (ISO 9001:2000) from the International Organization for Standardization (ISO).

It has subscribers in 217 markets worldwide, and covers the needs of these different markets by delivering localized solutions for marketing, customer services and support through a network of some 65 local Amadeus Commercial Organizations (ACOs). Over 7,760 people work in the Amadeus worldwide team covering its principal locations and consolidated ACOs. And, it has over 95 nationalities working in the central sites alone, making it a truly multi-cultural enterprise.

The product portfolio of Amadeus consists of Distribution & Content, Sales & e-Commerce, Business Management, and Services & Consulting. The Amadeus e-Travel Airline Suite consists of three groups of solutions. The Amadeus e-Merchandise Solution, for pre-sales faring and shopping, delivers major airlines an average 8% increase in yield and an average 30% increase in revenues. The Amadeus e-Retail Solution is one of the best-in-class booking solution for airlines. The Amadeus e-Service Solution, for post-sales servicing, aims to deliver an airline's end users the highest levels of online experience. The Amadeus e-Travel Airline Suite's three solutions seamlessly integrate and work together to improve the profitability, efficiency and end user appeal of an airline's entire e-commerce cycle.

Through the Amadeus System close to 90,270 travel agency locations and over 29,660 airline sales offices around the world are able to make bookings with:

➢ More than 490 airlines, representing more than 95% of the worlds scheduled airline seats
➢ Some 75,280 hotel properties
➢ Some 22 car rental companies, serving over 36,000 locations
➢ Other travel provider groups (ferry, rail, cruise, insurance companies and tour operators)

Amadeus supports most participants in the travel industry including travel pro-viders (e.g. airlines, hotels, ground and maritime transporters, tour operators), travel sellers (e.g. travel agencies, consolidators), and travel buyers (corporations and individual travelers).

By working effectively with those immersed in the business of travel and tourism, the company has been able to design winning solutions for travel booking and travel management. For instance, British Airways and Finnair contracted Amadeus' Airline IT Services as did Qantas Airways who demonstrated its confidence in Amadeus by signing a ten-year agreement. Amadeus kept on strengthening its portfolio with acquisitions such as:

- SMART AB, the leading travel distribution company in Northern Europe
- Vacation.com, the largest US marketing network for leisure travel
- e-Travel, Inc., a leading supplier of hosted technology products for corporate travel

According to Amadeus, its greatest strength is its knack for forming successful partnerships. Amadeus handles over 100 million unique site visitors per month. Over 70 of the world's leading airlines use the Amadeus e-Travel Airline Suite to power over 250 websites in more than 80 markets.

KAYAK: A Case Study

Kayak is a travel meta-search engine: it searches hundreds of travel sites from all over the world, including the sites maintained by airliners, hoteliers, car rental firms, and even the e-travel agents, to provide the information to the searcher in an easy-to-use display and send him directly to the source to make the purchase. In addition, its fare alerts and fare history help travelers stay on top of changing travel prices.

This business model is different from the models offered by Expedia, Travelocity, Priceline, etc in that the latter ones make the customer to do the booking and payment with them rather than directing him to the original source. Kayak's search engine can find all kinds of travel products– from flights and hotels to rental cars and cruises. Online travel agencies are generally retailers that only sell the products on their shelves. Their displays are designed to sell the merchandise that makes them the most money and they make on a service fee for each airline ticket booked through them, either from the customer or from the service provider, or from both. In other words, Kayak is not an online retail store.

The business model of Kayak is click-based: it gains an amount when travelers click on its advertisements. Another channel of revenue generation is similar to that of Google, when customers click on the results from travel suppliers like airlines, hotels, and rental car companies. According to Kayak, advertisers pay it more for the clicks because Kayak traffic is far more qualified than generic search engines when it comes to travel search.

Kayak as an example for travel meta-search engine

[*Source:* http://www.kayak.co.in/]

Theoretically, online purchase brings to the customer a price advantage: many hoteliers and airliners are known to pass on to the customer the commission that they would have given to the middlemen if they were to do business in the traditional model. The benefits of such disintermediation, however, are not significant in those market conditions where the middlemen are stronger and control access to the major buyer segments. In such situations, middlemen like the travel agents negotiate deeply with service providers like airliners and hoteliers and purchase these services at deeply discounted rates. Frequently, they can sell at prices much less than that a competing online service provider can offer. Due to their market clout, such middlemen often threaten the original service providers against selling their services directly to customers.

However, in the recent past, this has led to a very new kind of competition: the competition among brick and mortar travel agents and e-travel agents. When brick and mortar travel agents and e-travel agents buy services at the same cost, due to the low transaction costs, e-travel agents can sell these services at a lower price than their brick and mortar counterparts. This is the reason behind the success of e-travel agents like Expedia and Priceline. Due to the same reason, most traditionally brick and mortar travel agencies have now got e-travel wings.

Thus, disintermediation is a mixed success. There is another reason why middlemen continue to hold a position of importance in the travel business. While a customer can 'Google' for products and services online and buy from one of the millions of firms that the search results brings in, the 'information overload' upon the customer caused by this is enormous. The customer cannot distinguish the crop from the weed and then they lean to the travel agent for expert help. Many travel agents have found a business opportunity here and have reincarnated in various degrees as 'infomediaries'. Re intermediation by these infomediaries is likely to continue as a dominant form of travel business for some more time, even as social community websites do offer a viable alternative.

E-Commerce Models in Tourism

Ecommerce can be broken into many categories: B2B, B2C, C2B, C2C, B2G, G2B, G2C, C2G, B2E, and so on. The '2' in the acronym is a net slang for 'to'. Thus, B2B stands for business to business e-commerce; C2B stands for consumer to business e-commerce; G2C stands for government to consumer (citizen!) e-commerce; B2E stands for business to employee; etc. One can conceive of many other categories of e-commerce than those given above, but are superfluous in any general discussion. In the remaining part of the chapter, we will deal in depth with the four most prominent forms of e-commerce (B2B, B2C, C2B, and C2C) that are of special relevance to the tourism industry.

B2B (Business to Business) e-commerce comprises of companies doing business with each other. Airliners selling tickets to the tour operators in bulk and hoteliers adopting electronic method of procurement of raw materials are some of the examples of it.

B2C (Business to Consumer) e-commerce comprises of companies selling goods and services to the consumers, normally via a web interface. Most B2C sites use some sort of shopping cart software and let the consumer to complete the transaction using electronic money transfer via credit/debit cards, e-cheques, etc. For an average individual, e-commerce is all about B2C, even though B2B is bigger in terms of dollar volume.

C2B (Consumer to Business) e-commerce comprises of consumer postings of their requirements, bidding by business firms in response, and the subsequent selection of the best bid by the consumer. In this scheme, a consumer can prepare an itinerary involving air and local travel, accommodation, and sightseeing and post the same in a website facilitating C2B. Travel companies can respond to such posts with the pricing schemes they have. Out of the different offers, the consumer can choose one that fits him the best.

C2C (Consumer to Consumer) e-commerce comprises of person to person transactions mediated by forums like auction sites or social networking sites. Someone who wants to sell some items can now post those items in sites such as e-Bay or Google Base which will be stored in these sites as searchable items. Potential buyers can identify these items and buy using payment schemes like Paypal or Google Checkout. Travellers' communities such as Couch surfing, Wayn, etc are other examples of C2C e-commerce. These communities provide opportunities for travellers to discuss issues of common interest, gather and post opinions about places and service providers, and probably travel with only a minimal support from the travel industry.

Online Travel - Indian Scenario

Growth in India's travel and tourism industry is the second fastest worldwide. According to a Deutsche Bank report, the industry would grow at a CAGR of 10% to reach US$111 billion by 2020. The growth of the services sector (thereby leading to rising household income, an expanding middle class and more inbound and outbound tourism) is responsible for this rapid growth.

The civil aviation sector in India has witnessed favourable developments in the last decade. India is the ninth-largest civil aviation market in the world and is poised to feature among the top five global markets over the next decade. Airline passenger traffic rose rapidly from 59.3 million in FY05 to 162.3 million in FY12.

India's air passenger traffic (million)
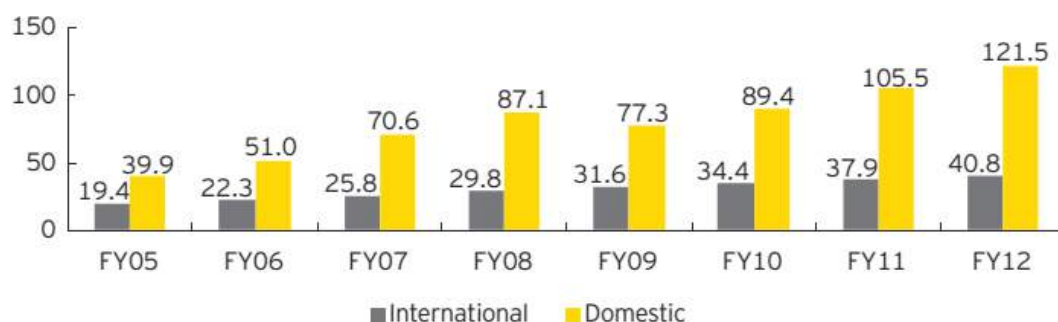
Source: Airport Authority of India (AAI)

India's air passenger traffic data (2005-12)

106

Growth in air passenger traffic in India can be attributed to the entry of LCCs in 2005, making air travel affordable for a large number of people.

Furthermore, the modernization of airport infrastructure and the permission granted to leading airlines to launch international operations have contributed favourably to the growth in air traffic.

Inbound and outbound travel for both business and leisure has increased. Spending on domestic and international travel by Indian travellers is forecast to touch US$1.4 billion and US$426 million, respectively, by 2013.

This has prompted domestic full service carriers and LCCs to expand their networks by offering connectivity to near-shore destinations such as Hong Kong, Singapore, Malaysia, Thailand, Dubai and Nepal, thus aiding in the growth of online travel.

The rise in inbound and outbound travel and the growth of tourism have increased demand for hotel rooms. At present, there is a demand-supply gap in the availability of hotel rooms, with the deficiency being on the supply side.

Currently, 150,000 hotel rooms are available in India, and their number is forecast to grow at a CAGR of 9.5% between 2011 and 2015. This would help meet the surplus demand and spur the growth of online travel.

The online travel market grew rapidly at a CAGR of 51.8% from US$1.5 billion in 2007 to US$8 billion in 2011. OTA market penetration increased from 2.2% in 2005 to 28% in 2011.
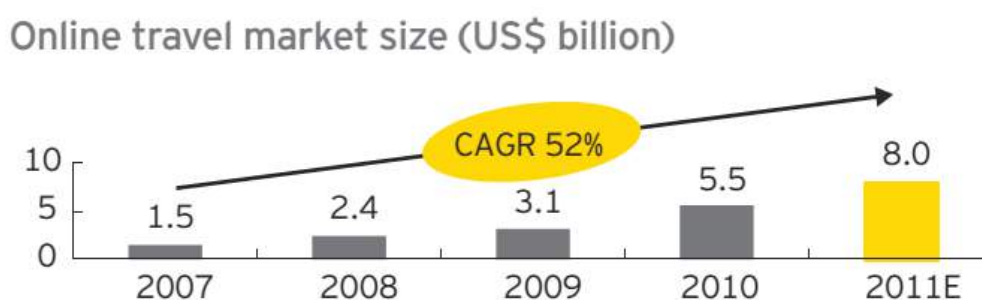
Indian online travel market size growth (2007-11)

Some of the key services offered in the Indian Online Travel Industry are highlighted below.

Key services offered in the online travel industry:

Key services
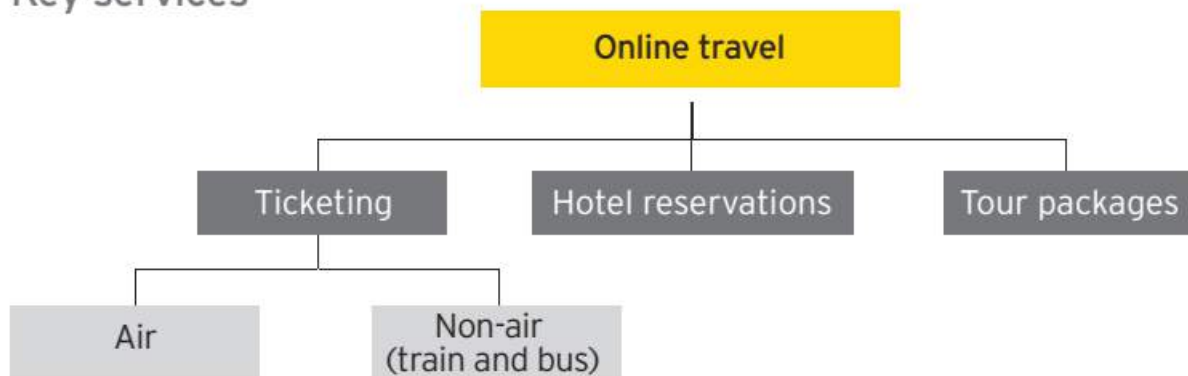
Key services offered in Online Travel

[*Source:* www.ey.com/Publication/]
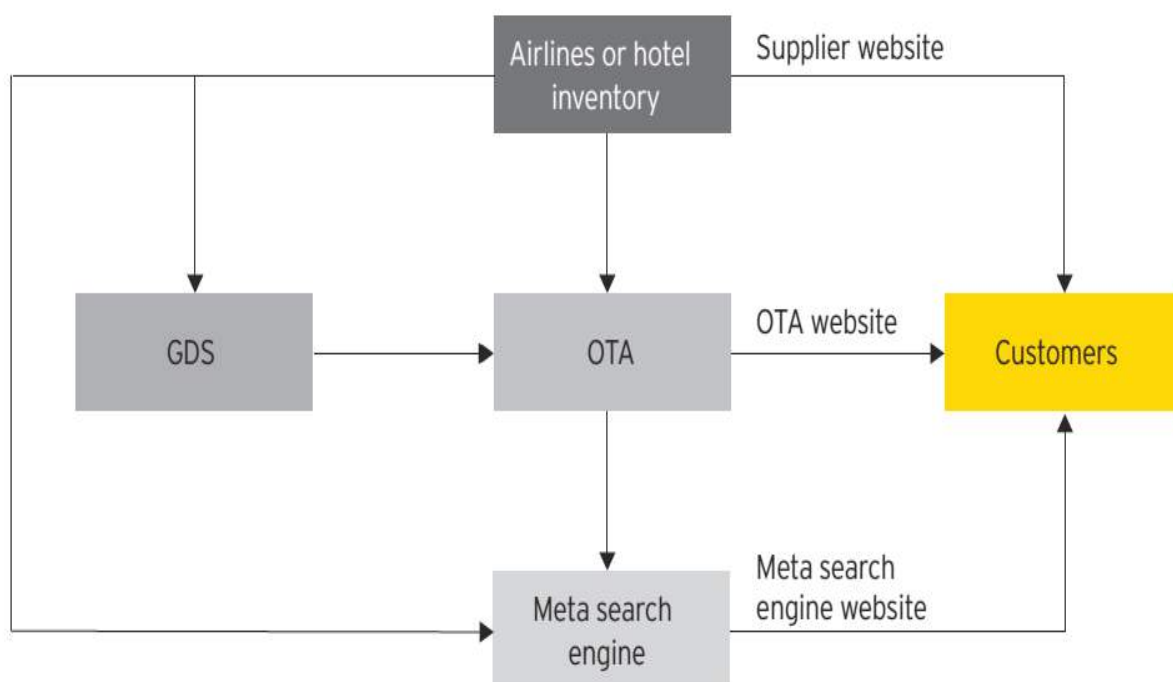
Options available in Online Travel

[*Source:* www.ey.com/Publication/]

In the online travel segment, global distribution systems (GDS), OTAs, airlines and hotels are engaged in providing information on tickets, hotel room inventory and tour packages. Revenue models depend on partnerships among these players.

Airlines either sell their tickets directly to customers or through GDS and OTAs. GDS offer air and railway tickets, car rental information and hotel rooms. This makes it

compelling for OTAs to partner with them. OTAs also directly partner with airlines, hotels, railways and bus services. Meta search engines partner with airlines and hotels to provide customers with a common portal that encompasses information from all OTAs and airline portals. This helps their customers obtain information on the best prices available on a single website.
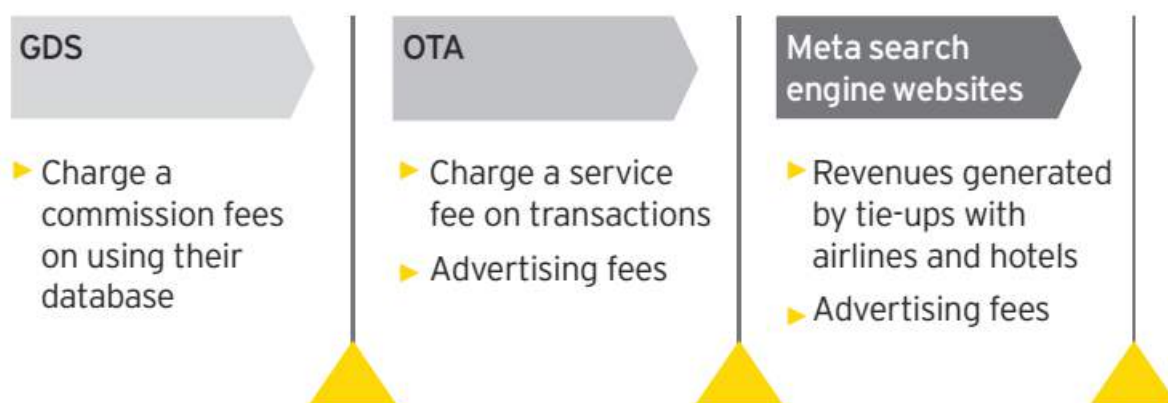
Revenue sources in Online Travel

[*Source:* www.ey.com/Publication/]

Main sources of revenues for GDS, OTAs and meta-search engine websites:

Travel ticketing is the largest segment of internet commerce in India both by volume and value. The segment currently represents nearly 90% of the overall online travel market in India (by value of transactions). In 2011, 59% of internet users searched for or bought travel products online.

Apart from the convenience offered by online purchasing, the limited need to touch and feel the product enabled this segment to grow faster than others in the industry. Price, schedule and choice of airline are the only parameters to be considered while buying a ticket online. Railway tickets have been available online for close to 10 years now, though this mode of purchase has been witnessing rising volumes only over the last three to four years. Currently, the number of railway tickets sold online amount to nearly three times that of airline tickets.

OTAs derive the bulk of their revenues from the airline industry. Among the various modes of transport, more than 50% of air tickets and 40% of train tickets are bought online. This is not surprising, considering that a larger number of air travellers have internet access. Airline tickets has benefited from the rapid growth of the overall airline Industry in India, especially LCCs, which maintain focus on online booking.

Online travel penetration by segments

[*Source:* www.ey.com/Publication/]

The Indian Railways website is the most visited travel site in India. However, since the average price of a railway ticket is less than that of an airline ticket, online booking of domestic air tickets has emerged as the largest segment of the online travel industry (with a 65% share in 2009). OTAs form a significant portion of this segment with a 34% market share.

Break-up of domestic air ticket bookings in India

International air ticket and bus ticket bookings contributed a minuscule 4% and 2% to the ticketing market in 2009, respectively. Despite the higher value of international tickets and air passenger traffic (40.8 million in FY12) accounting for one-third of domestic air traffic (120.5 million in FY12), most travellers seem to prefer offline agents to make bookings. As a result, the share of international air tickets is smaller than that of domestic air tickets.

A new model emerging in the online air ticket booking space is opaque pricing, with OTAs selling air tickets at a discount to existing prices. However, the names of the airlines are only revealed on completion of the booking process. This pricing scheme benefits consumers, since they can buy tickets at low prices. This also provides an avenue for airlines to sell the maximum number of seats. However, while this scheme may benefit airlines in selling their vacant seats, it takes away their opportunity of differentiating services, since passengers are unaware of the names of the airlines.

Low entry barriers in the online travel market have resulted in a number of small players entering the online hotel reservations and hotel packages space. The market is now cluttered with a mix of large Indian OTAs, as well as several smaller players and international players. Recent entrants are mainly competing on price to capture market share. This has put pressure on the margins of players across the segment.

Commission rates in the air travel segment are low (around 7%). The margins of hotel reservations and tour packages are the highest among all the segments of online travel and are often as high as 25%.

Online travel: margins by segment

Segment	Margins
Air travel	7%
Train travel	5-10%
Bus travel	10%
Car rentals	10%
Hotels and tours packages	10-25%

Source: Avendus

Online travel: margins by segment

Margins in the ticketing business for OTAs in India are expected to erode further, with airlines increasingly raising their voice against giving commissions to the former. The airline commission model has already been done away with in Japan. Leading international airlines flying to India have already decided to adopt a zero-commission structure for travel agents. As of January 2012, 17 international airlines had stopped paying commission to travel agents.

It is expected that there will be continued pressure on the margins of OTAs from domestic airlines as well. In 2008, domestic airlines adopted international airlines' strategy of implementing a zero commission structure. However, they had to revert to the model on being boycotted by OTAs. The factors mentioned above are causing a shift in the revenue mix of OTAs, which are looking at hotel reservations to enhance their revenue stream. OTAs have expanded their operations beyond selling tickets online to offering complete travel and tourism solutions.

Higher margins in the hotel reservation segment have lured many OTAs. However, players need to be aware and step up to the competencies required in the hotel reservation space in terms of supplier partnerships management, operational requirements of workforce and information management. These requirements are different from those posed in the ticketing segment.

Issues in the Online Hotel Industry

➢ *Managing a Diverse Supplier Base*

Hotel reservations and tour packages entail higher customer engagement as compared to the simpler business of selling air tickets. While the airline ticketing segment may involve managing relationships with six players, the hotel segment requires a larger workforce to manage relationships with thousands of hotels. This requires the hiring of a substantial workforce to manage relationship with hotels, resolve disputes between customers and the hotels, and provide regular updates of inventory in hotels.

➢ *Overcoming Technological Constraints*

The fragmented nature of the hotel industry in India and low technological investment made by hotels add to the challenges of maintaining a large workforce. This poses problems in providing accurate updates on inventory reserved for booking through OTAs. The recent growth of organized hotel chains in India offers a reprieve to OTAs from these challenges.

➢ *Customer Experience*

While the customer experience provided by airlines is standardized and lasts around two to three hours, engagements with hotel customers are of a longer duration and can stretch to days. OTAs need to ensure that they deliver on the promises made to customers.

➤ *Authenticity of Information*

OTAs need to ensure that hotels provide accurate information on services offered and tariffs charged. To address customers' concerns about the validity of information provided by hotels, OTAs could consider performing regular audits of their hotel partners. User-generated content may also help alleviate such concerns.

➤ **Grievance Redressal**

OTAs should focus on providing call center services to customers seeking information and grievance redressal. Since customer experience is a prime focus area for all e-Commerce companies, OTAs need to invest in training customer care executives to ensure an enhanced experience for customers.

The success of OTAs in this segment is, therefore, dependent on how well the workforce is trained to perform these tasks efficiently. Online presence of hotels results in higher visibility, as well as greater responsibility. The online presence of hotels ensures higher visibility and generates additional business even during off-season months. However, an online presence also entails the responsibility of servicing clients. Hotel services are different from those provided by airlines, since hotels need to deal with customers for a much longer period. Failure to deliver on promises or poor customer service may lead to negative publicity from customers. With online reviews gaining popularity in India, a bad word about a hotel may spread quickly and cause fatal damage.

OTAs are also providing tour packages. They are bundling airline tickets, hotel reservations and tour packages to suit the needs of consumers who have moved from being low-price deal seekers to value-conscious users. OTAs need to ensure that they segment their target customers correctly and provide a value proposition that is commensurate with the latter's expectations.

The growth of the Indian OTA market has attracted leading global OTAs to the country. Leading Indian OTAs have been successful in capturing market share because they understand the psyche of local customers and customize their solutions accordingly.

Although it may take some time for international players to understand the market and capture market share, they have more substantial financial resources and a wider global supplier network. International OTAs in India lead in servicing inbound traffic. Their supplier networks help them attract the best deals for their customers. This, coupled with their huge technological investments and the ability to provide relevant search results for their customers, makes them a force to be reckoned with.

There is low penetration of the online bus ticketing services segment in India. The online presence of bus operators would increase their visibility, since it would enable easier access to information for tourists. Although there is significant scope for expansion, the low adoption of technology by bus operators and the fragmented nature of the bus industry hamper growth. Players need to, therefore, quickly invest in technology or risk losing out on a significant share of potential customers.

OTAs are increasingly feeling margin pressures in the ticketing business. They may use the ticketing segment to generate volumes and then cross-sell their hotel reservations and package services to customers acquired in this manner. Presence in the hotel reservations segment is expected to shore up margins, but OTAs need to develop specific capabilities to succeed in the hotel reservations segment. The underpenetrated segments of online travel, including hotel reservations, tour packages and bus travel, would see growth in coming years. Suppliers in these segments, i.e., hotels and bus operators, would need to up their investment in adopting technology to increase visibility.

OTAs would increasingly focus on the hotel and tour package segments. Players that understand customer requirements and provide suitable products at the best value in terms of price and customer experience would undoubtedly gain an edge. User-generated content is expected to play a significant part in consumers' hotel selection decision. OTAs need to ensure an active role in the generation of online reviews and regular updating. Hotels need to be aware of the fact that though user-generated content (UGC) can be a primary source of marketing, it can also spread jarring negative publicity at the speed of light. Therefore, hotels must act on the promises made in their advertisements on OTAs or other media.

Conclusion

This lesson has provided an understanding of the economic logic of a business using the concept of Business model canvas as applied to Tourism businesses. The online Tourism industry is characterized by the presence of intermediaries such as the Global Distribution Systems and infomediaries such as the Meta-search engines. Their roles and positions in the e-Tourism value chain have been presented. Finally, an up-to-date scenario of the online travel industry in India is provided to highlight the scope and challenges ahead.

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Lesson 3.2 - Business Models in Tourism (B2B, B2C, C2C and C2B)

Learning Objectives

The objectives of this lesson are:

➢ To illustrate the common business models (namely, B2B, B2C, C2C and C2B) in Tourism

➢ To explain the working of these business models with examples from the Indian context

After going through this lesson, you will be able to:

➢ Understand the e-commerce functions performed in B2B, B2C, C2C and C2B Tourism businesses

➢ Identify the revenue sources for online tourism businesses.

Introduction to B2B Business Models in Tourism

Digital communication channels are playing an ever-increasing role in the tourist destination decision-making process. This is particularly true in the B2C market, where independent travellers can research a potential destination and book travel, accommodation, restaurants and entertainment quickly and easily. The B2B tourism industry has been somewhat slower to embrace digital communication channels, but where some markets have effective, targeted digital B2B platforms, others have yet to realize the full potential of the media.

To bring B2B up to speed with B2C tourism platforms, tourism businesses must take full advantage of the digital communication offerings. By targeting content to specific business sectors, increasing interactivity, making better use of storytelling and video—and making this content shareable—and adapting content to emerging markets and different cultures, digital B2B platforms can help improve the overall B2B strategy of the tourism industry.

With a strong and innovative digital B2B marketing and communication strategy, tourism businesses and organizations can profile their product more effectively, improve their competitive edge and make it easier to do business online—and ultimately—help to make a given tourist destination more attractive.

E-procurement is a good example of the innovative use of technology in the tourism industry. E-procurement means purchasing goods and services over the Internet. Its further goal is to move the entire procurement process online, bringing operators together with their chosen distributors and enabling a streamlined and automated flow of the purchasing cycle. E-procurement offers a great opportunity to reduce costs and contributes to the success of the tourism industry. Indeed, e-procurement technologies are not only an important management tool, but also an integral component of Supply Chain Management (SCM).

TRAVEL & HOSPITALITY
By The Numbers

CUSTOMER ISSUES

Expansion of customer base because of Internet capabilities **15%**

Percentage of Internet sales orders that are perfect orders **89%***

Percentage of visits to Web site that are converted into orders **8%**

SUPPLIER ISSUES

16% Percentage of purchase orders done over the Internet

16% Percentage of strategic suppliers sourced over the Internet

16% Percentage of strategic sourcing dollars spent over the Internet

ELECTRONIC MARKETS

Percentage of sales orders conducted via an e-marketplace **16%**

Percentage of purchase orders conducted via an e-marketplace **8%**

E-BUSINESS REVENUE

8% Percentage of revenue achieved via the Internet

9% Percentage of orders received online

9% Percentage of revenue growth in last fiscal year resulting from the Internet

39% How much Internet revenue is expected to grow in the current fiscal year

COST CUTTING

Cost reductions from indirect materials procurement on the Internet **7%**

Cost reduction in customer management via the Internet **8%**

Cost reduction in fulfillment and delivery via the Internet **9%**

Figures are averages for InternetWeek 100 companies in this industry
*Orders that are fulfilled accurately, on time and in the right quantity
Sources: InternetWeek, Benchmarking Partners

Statistics highlighting the impact of Internet on travel industry

Although for decades the reengineering of procurement has been attempted through various information technologies (e.g., telecommunications), the real opportunity for achieving this reengineering goal may lie in the use of e-procurement. This is particularly true in a stagnant economy. High revenue growth is often the major concern of corporate executives but such growth may not be always possible in a slow economic environment.

Therefore, the cost component, substantially impacted by an e-procurement strategy, may be the key to continue creating value in difficult circumstances. The classical value of e-procurement lies in reducing costs that goes directly to the bottom line which has a greater impact than increasing revenue.

Examples of B2B Ecommerce in Tourism

Example B2B – Hilton Hotels Corporation

A prime example of this Internet based technology strategy is The Hilton Hotels Corporation. They have sought to improve their supply chain management through an aggressive online strategy. They obtain approximately 30% of their $1 billion annual procurement over the Web. They have succeeded in building and managing online business-to-business communities and trading exchanges. This purchasing exchange is opened up to other hotel chains. This is a comprehensive effort in the use of the Internet technology in order to expand its customer services and integrated with the use of the Internet to increase sales, link to customers and cut procurement costs.

This aggressive online strategy is a company priority and hospitality analysts have given Hilton high marks in their e-business endeavours. This approach is practical especially in tough economic times—Hilton will need to cut costs to keep its industry leading profit margins on the rise. By using a consistent platform, Hilton's e-Procurement system simplifies the purchase process, enabling them to fully deploy the Business-to-Business application across their portfolio of brand and ordering disciplines. It also provides properties with a significant increase in system functionality coupled with a solution that is scalable to each brand's specific requirements.

Hilton Supply Management's online catalogs contain products in many spend classifications, including Food, Furniture, Fixtures, & Equipment (FF&E), Services, Printing, Uniforms, Maintenance Repair & Operating Supplies and Operating Supplies & Equipment. Hilton's e-Procurement page is shown below.
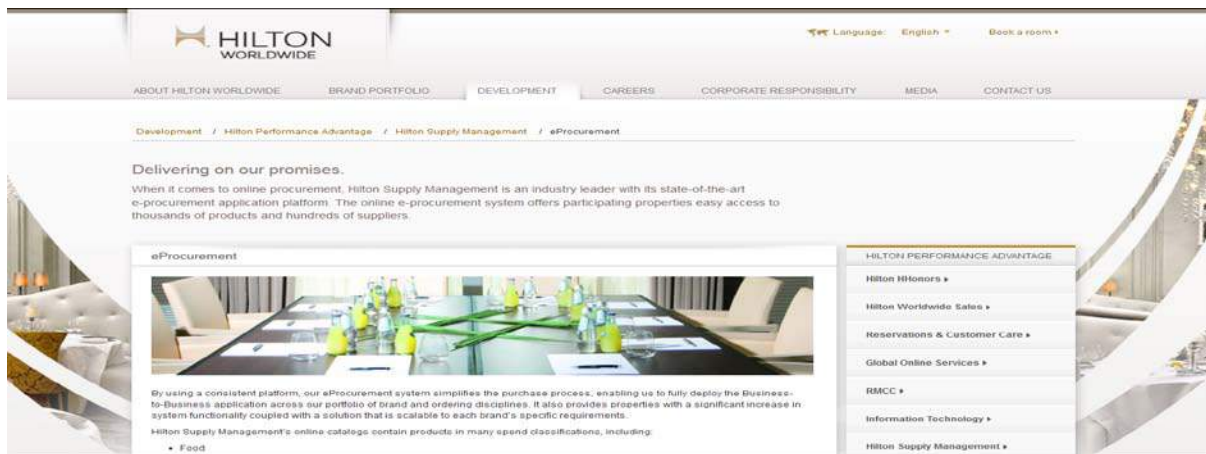
Home of Hilton Hotels Worldwide

Electronic marketplaces can break down trade barriers and offer access to hospitality companies, regardless of size. A diversity of products and services are offered, ranging from furniture, fixtures and equipment, renovation and construction, service contracts, operating supplies and food and beverage.

Example B2B – Jet Airways

[*Source:* http://www.jetairways.com/EN/IN/AboutUs/Procurement.aspx]

Example for eProcurement (vendor evaluation) on Jet Airways website

With its first flight in 1993, Jet Airways has come a long way to becoming one of the fastest growing airlines in the world. It connects 20 international destinations and operates flights to and from 49 destinations in India. Another example of B2B in the hospitality sector is the e-procurement initiative of Jet Airways forIn-Flight, Cabin, Traffic Items, IT, Ground Support and Project Equipment, Transportation, Accommodation and various allied services. The e-procurement page of Jet Airways is shown below.

Example B2B – Services - Hilton Worldwide

An innovative initiative of Hilton Worldwide is The Hilton Worldwide e-Commerce Program. To ensure that a client hotel exploits new opportunities and stays ahead in the rapidly evolving online space, Hilton Worldwide has created a specialist global e-Commerce force to manage their online presence with world-class talent, industry-leading tools, and innovative thinking. Their global team of online specialists will work closely with the client hotel on a pay-to-play basis to drive revenues by developing and managing hotel websites, optimizing existing sites, and providing monthly online performance analytics.

[*Source:* http://www.hiltonmanagementservices.com/en/revenue/ecommerce.html]

Services offered in the Hilton e-commerce program

Some of the services provided to other hotels by Hilton Worldwide through its ecommerce program are shown below.

Example B2B – Gulf Air

Gulf Air has rolled out a dedicated B2B (Business to Business) internet booking tool – for its corporate customers and travel agents as part of the airline's growing number of solutions offered to its corporate and trade partners. The new service offers Gulf Air's corporate customers, i.e., small to medium sized enterprises as well as travel agents, the facility to book directly with Gulf Air, from the comfort of their own offices.

With the new internet booking tool, corporate customers can check availability of flights in real-time, select the flight they want and book seats instantly. They can also pick and choose a seat of their choice from the seat map available online.

[*Source:* http://www.gulfair.com/English/Pages/default.aspx]
Homepage screenshot of Gulf Air

While Gulf Air has introduced several enhancements to our internet booking service in recent times aimed at our individual customers, this new internet booking tool is designed for our growing number of small to medium sized enterprises as well as travel agents making it easier for them to book and fly with Gulf Air.

The B2B tool is built on the same secure platform and very easy-to-use interface at gulfair.com. It can offer dedicated fares, real time seat availability, provide multiple forms of payment and instant ticketing, besides, internal functions such as account management and booking retrieval - all of which can be done from the comfort of their office. A screenshot of the Gulf Air website is shown above.

Introduction to B2C business models in Tourism

Travel is the largest e-commerce category, led by airline ticket sales, with an estimated $85.7 billion spent online for airline tickets sales in 2012 in the US by business and leisure travellers, according to a study commissioned by the International Air Transport Association (IATA) identifying major trends that are transforming the travel distribution landscape. Barclay's research wing has published the following data that highlights the size, scope and growth of B2C e-commerce in travel and tourism industry:

Online travel sales growth worldwide, 2010-2016 (% of change):

➢ 2010: 10%
➢ 2011: 10%
➢ 2012: 10%
➢ 2013: 9%
➢ 2014: 9%
➢ 2015: 8%
➢ 2016: 8%

Online travel sales growth by region (2010 and 2016):

➢ Latin America:33% in 2010, falling to 18% by 2016
➢ Asia-Pacific: 22% in 2010, falling to 15% by 2016
➢ Europe: 10% in 2010, falling to 5% by 2016
➢ US: 5% in 2010, remaining at 5% by 2016

Online travel sales worldwide, 2010-2016 (billions):

- 2010: $309 billion (35.9% of total)
- 2011: $340 billion (37.1% of total)
- 2012: $374 billion (38.9% of total)
- 2013: $408 billion (40.4% of total)
- 2014: $446 billion (42.3% of total)
- 2015: $483 billion (44.2% of total)
- 2016: $523 billion (46.2% of total)

Online travel sales by regions, 2010 and 2016 (billions):

- US: $139 billion in 2010 (or 54.7% of total), raising to $182 billion by 2016 (or 53.9% of total)

- Europe: $118 billion in 2010 (or 40.4% of total), raising to $176 billion by 2016 (or 50.2% of total)

- Asia-Pacific: $44 billion in 2010 (17.2% of total), raising to $131 billion by 2016 (or 36.8% of total)

- Latin America: $8 billion in 2010 (or 13.8% of total), raising to $34 billion by 2016 (or 39.0% of total)

The BRIC countries will have four of the five fastest-growing online travel sales markets during the 2011 to 2016 period, according to an e-Marketer report 'BRIC Travel Markets in Transition: Trends Influence Overall Ecommerce'. India's five-year compound annual growth rate of 30.6% will put it at the top the group.

Online travel sales in BRIC, 2010-2016 (billions):

- 2010: $26.48 billion
- 2011: $40.00 billion
- 2012: $52.91 billion
- 2013: $65.11 billion
- 2014: $75.78 billion
- 2015: $84.96 billion
- 2016: $93.65 billion

Online travel sales Compound Annual Growth Rate (CAGR) in selected countries, 2011-2016:

- India: 30.6%
- South Korea: 19.8%
- Brazil: 18.2%
- China: 14.1%
- Russia: 9.8%
- Australia: 7.4%
- US: 7.2%

Online travel sales in these countries anchor an overall shift from offline to online purchasing among consumers in their respective markets. Brazil, Russia, India and China have distinct differences in volume of online travel sales and by marked variations in consumer behaviour.

Some of the pronounced trends differentiating the countries are:

- In Brazil, there is a narrow choice of travel products, which has limited consumers to primarily domestic travel.

- Russia has by far the lowest online travel sales of the emerging countries, despite high GDP. But consumers there are avid internet travel researchers.

- In India, consumers have been slow to adopt ecommerce generally, but travel is the exception. Online travel purchasing makes up more than three-quarters of overall ecommerce sales in India.

- The number of online travel bookers in China is low in comparison to the number of overall ecommerce buyers. But at $48 billion, according to e-Marketer estimates, consumers in China will spend more on online travel in 2016 than the rest of BRIC combined.

While it's clear that the BRIC countries share key characteristics as emerging markets, each has disparate digital and demographic trends affecting increases in online travel purchasing.

B2C Travel Industry in India: Scope and Growth

Travel was the first industry to garner significant digital sales in India, and according to the Internet & Mobile Association of India (IAMAI) and Indian Market Research

Bureau (IMRB) International, it remains by far the biggest segment of B2C ecommerce sales. Totalling $345.44 billion INR ($6.44 billion) in 2012, online travel sales accounted for nearly three-quarters of all B2C ecommerce sales, as noted by the IAMAI and IMRB's "Digital Commerce" report from May 2013.

B2C e-Commerce share in India, by segment December 2009 to December 2013 (% of total):

> ➢ December 2009: 78% travel industry / 22% non-travel industry
> ➢ December 2010: 78% / 22%
> ➢ December 2011: 76% / 24%
> ➢ December 2012: 73% / 27%
> ➢ December 2013: 71% / 29%

While travel remains dominant, other types of ecommerce are catching on, and the IAMAI estimates travel's share will decrease to 71% by December 2013. Online retail sales ("etailing," according to the report) are expected to grow more than 50% in 2013 and reach just more than $100 billion INR ($1.87 billion) by year's end, driving non-travel sales' increase in market share.

Travel industry online sales in India, December 2009 to December 2013 (in Indian rupees):

> ➢ December 2009: 149.53 billion
> ➢ December 2010: 204.40 billion
> ➢ December 2011: 265.72 billion
> ➢ December 2012: 345.44 billion
> ➢ December 2013: 449.07 billion

While other types of ecommerce are gaining steam in India, online travel sales are still raising fast, estimated to increase by $103.63 billion INR ($1.9 billion) in 2013, a greater raw increase than for total etailing sales, which is by far the largest not-travel category. The IAMAI/IMRB report noted that transit tickets- air, rail and bus-comprised 97% of all online travel sales in 2012, with this category heavily dominated by domestic air tickets (50% of all online travel sales) and rail passes (39%). Only 2% of all online sales came for lodging accommodations, which means there's still plenty of room for growth in online hotel bookings.

Online travel sales in India, by category, 2012 (in Indian rupees):

Total: 345.44 Billion

- Domestic air tickets: 173.35 billion (50%)
- Railway tickets: 136.39 billion (39%)
- International air tickets: 19.26 billion (6%)
- Hotel bookings: 7.00 billion (2%)
- Bus tickets: 6.41 billion (2%)
- Tour packages/travel insurance: 3.03 billion (1%)

E-Marketer's projection for travel ecommerce sales in India is higher than the IAMAI's, with the category estimated to have reached $9.61 billion last year. But the growth forecast for 2013 is similar: e-Marketer anticipates digital travel sales will rise by 29.1% this year. The IAMAI expects growth of 26.7%

Examples of B2C Ecommerce in Tourism

Example B2C – Makemytrip.com

MakeMyTrip.com, India's leading online travel company was founded in the year 2000 by Deep Kalra. Created to empower the Indian traveller with instant booking and comprehensive choices, the company began its journey in the US-India travel market. It aimed to offer a range of best-value products and services along with cutting-edge technology and dedicated round-the-clock customer support.

After consolidating its position in the market as a brand recognized for its reliability and transparency, Make MyTrip followed its success in the US by launching its India operations in 2005. With the foresight to seize the opportunities in the domestic travel market, brought on by a slew of new airlines, Make My Trip offered travelers the convenience of online travel bookings at rock-bottom prices. Rapidly, Make My Trip became the preferred choice of millions of travelers who were delighted to be empowered by a few mouse clicks.

Make MyTrip's rise has been led by the vision and the spirit of each one of its employees. With untiring innovation and determination, Make My Trip proactively began to diversify its product offering, adding a variety of online and offline products and services. Make MyTrip also stayed ahead of the curve by continually evolving its technology to meet the ever changing demands of the rapidly developing global travel market. Steadily establishing

itself across India and the world, Make MyTrip simultaneously nurtured the growth of its offline businesses like its franchises and affiliates simultaneously, augmenting the brand's already strong retail presence further.

Today, Make My Trip is much more than just a travel portal or a famous pioneering brand - it is a one-stop-travel-shop that offers the broadest selection of travel products and services in India. Make My Trip is the undisputed online leader, with its share of the travel market extending to more than 50% of all online sales, a fact evinced by the trust placed in it by millions of happy customers. Remaining reliable, efficient and at the forefront of technology, Make My Trip's commitment and customer-centricity allows it to better understand and provide for its customers' diverse needs and wants, and deliver consistently. It has dedicated 24x7 customer support and offices in 20 cities across India and 2 international offices in New York and San Francisco (in addition to several franchise locations).

[*Source:* http://www.makemytrip.com/]
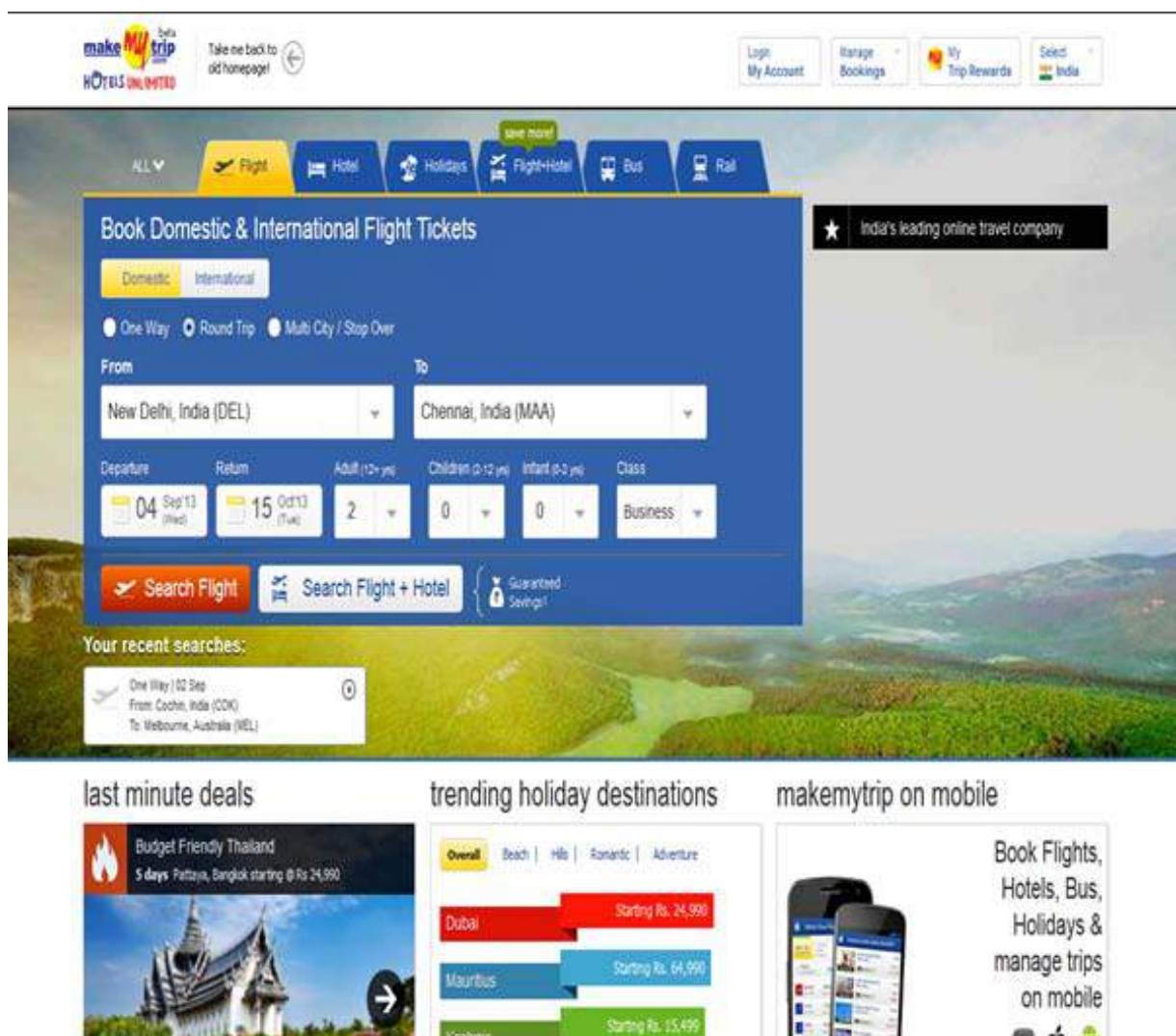
Screenshot of MakeMyTrip.com, a popular online travel agent in India

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Example B2C - Hyatt Hotels Corporation

Hyatt Hotels Corporation, headquartered in Chicago, is a leading global hospitality company with a proud heritage of making guests feel more than welcome. The Company's subsidiaries manage, franchise, own and develop hotels and resorts under the *Hyatt, Park Hyatt, Andaz, Grand Hyatt, Hyatt Regency, Hyatt Place* and *Hyatt House* brand names and have locations on six continents. *Hyatt Residential Group, Inc.*, a Hyatt Hotels Corporation subsidiary, develops, operates, markets or licenses *Hyatt Residences* and *Hyatt Residence Club*. As of December 31, 2012, the Company's worldwide portfolio consisted of 500 properties in 46 countries. Hyatt also runs more than 600 websites in 10 different languages, ranging from websites for its hotels and restaurants to a corporate website and a blog.

Electronic distribution channels are a key contributor to Hyatt's total reservations. As the Internet increasingly becomes the preferred point of purchase for consumers, Hyatt has aligned its operations to support these constantly evolving distribution channels.

As one of the most important interactions a guest may have with the brand, Hyatt.com is at the center of Hyatt's worldwide sales and marketing efforts. Hyatt continually works to optimize the marketing effectiveness; brand experience and booking efficiency of their website in order to ultimately facilitate the online purchase process and drive revenue. Hyatt has created dedicated teams that focus on the functionality, architecture, design and content of the site, as well as on driving site traffic via integrated marketing communications (e.g., search engine optimization and marketing, social media, viral marketing, email programs and distributed content). Hyatt's Business Intelligence unit employs sophisticated analytics to increase digital marketing efficiencies and enhance our e-commerce performance.

Building on insights gained in more than a year of intensive qualitative and quantitative research, Hyatt Hotels Corporation recently launched a new Hyatt.com website designed to enhance the guest experience. The new Hyatt.com, the company's core digital platform and booking engine, marks a milestone of innovation and efficiency in the hospitality space.

Hyatt.com plays a significant role in shaping many people's perception of Hyatt, so it was crucial to make that experience even more efficient, informative and visually engaging. They had the necessary functionality that allowed guests to do what they needed to do, but our research showed us that we could repurpose that information to allow consumers a more seamless experience. This redesign is one of the largest E-Commerce initiatives Hyatt has ever undertaken, and they believe that the result has transformed Hyatt.com into a best-in-class website that will truly enhance the digital experience for today's travellers.

[*Source:* https://www.hyatt.com/hyatt/reservations/]

Screenshot from Hyatt's website

Hyatt asked more than 22,000 survey respondents questions about their overall Hyatt.com experience to determine what they liked best about the site and what they would change. As a result of that feedback, Hyatt built a new, more engaging and immersive hotel booking experience. Highlights include:

- ➢ **A Better View** – Guests can now experience galleries with 360-degree tours, photography and videos of each hotel and its guestrooms

- ➢ **Hyatt Speaks Your Language** – Hyatt.com is searchable and bookable in more than 10 languages, including English, German, Japanese, Korean, and Simplified and Traditional Chinese

- ➢ **Social Sharing** – New social media channel integration will allow guests to "like" or "share" a Hyatt-branded hotel or resort

- ➢ **Simplified Shopping and Booking** – A sophisticated, more efficient booking widget will bring information to the guest by clearly showcasing rate details, terms and conditions, and full rate disclosure with different currencies

- ➢ **Easier Reward Booking** – Hyatt Gold Passport point values are now displayed alongside hotel rates so guests can easily book using Hyatt Gold Passport points

Introduction to C2C business models in Tourism

For standardized tourism products, customers normally buy from traditional marketplace consisting of travel airlines and hotels. However, for more complex non-standardized tourism products, value-added services provided by intermediaries such as travel agencies may offer consumers, information and decision support to make their purchasing decision. The valued added service ranges from contact information, links, maps, price comparison facilities, customer community and decision support application. Hence, in the travel and tourism industry, information dissemination is crucial in promoting destinations and places.

The Internet has become one of the important media for communication, content and business transaction. The Web is a perfect meeting place for all kinds of information. With the pace of growth in e-commerce, many stakeholders in the travel and tourism industry has capitalized on the marketing and selling of their services online. Contribution of online tourism has been studied by Palmer (2000) and Heung (2003) and the common conclusion was the ability of the Internet to disseminate information to help boost the travel and tourism industry.

As highlighted earlier, the value-added service in the travel and tourism industry can be achieved through the sharing of information of destination or mode of travel choices among travellers and potential travellers through customer community. Information related technologies can support knowledge sharing through collaboration technologies and community of interest (Money and Turner 2004). The tourism and travel industry

can capitalized on the ability of experience sharing, by the establishment of C2C online community through their portals. Sharing travel experience can be made explicit either through story telling or through the distribution of artefacts such as photographs and videos or a combination of both. Experience is a form of tacit knowledge. Therefore, experience sharing is one form of knowledge sharing.

The literature has provided evidence that technology assisted communications are the key component of knowledge sharing process (Murray 2003). The common knowledge sharing platform offered by portals include e-mails, instant messaging, newsgroup, bulletin board system and its likes, chat room, personal website and electronic postcard. Currently, numerous C2C tourism websites are available. This includes websites such as www. virtualtourist.com, www.mytravelexperience.com, www.mytravelguide.comand others.

Examples of C2C Ecommerce in Tourism

C2C Model in Tourism: A Case Study of Couch Surfing

Couch Surfing is a worldwide non-profit network for making connections between travellers and the local communities they visit. Its objective is to internationally network people and places, create educational exchanges, raise collective consciousness, spread tolerance and facilitate cultural understanding. It aims to make the world a better place by opening the homes, hearts, and lives of its members. Couch Surfing creates deep and meaningful connections that cross continents and cultures. Thus, it is not only a way to travel but also how we relate our world as travellers.

Here is an example of how a C2C forum like Couch Surfing may be of use to a tourist: You decide you want to spend two weeks travelling around Europe. You get a ticket arriving in Amsterdam and departing from Florence. You log on to CouchSurfing.com and do a search for members within 20 kms of Amsterdam, Brussels, Frankfurt, Zurich and Florence- your new travel itinerary. You contact interesting prospects from the list and explain the sort of travel/stay you're interested in.

Use the "Request to Couch Surf with..." button to include specific details. You get several offers for places to stay. You decide that you want to spend a few days in each city. You confirm with your hosts, adjust your travel plans, and fly off to Amsterdam. Your host picks you up at the airport and takes you back to his flat in the Rembrandtplein section of Amsterdam. The two of you walk around the neighbour hood and meet some of his friends at a lively cafe for dinner. You stay up late sharing stories and getting to know each other. He recommends some interesting places you might like to explore around the city. When he

returns from work the next evening, he takes you to his favorite pub and you tell him about your adventures. The two of you laugh and connect; you make new friends at the pub, and you're grinning the whole walk home along the canals.

As an example of a good surfer, you do as much as you can to give back to your hosts. This includes doing simple things like, for example, washing the dishes, making dinner or helping out in some way. Maybe you can share a special skill that you may have. You say good-bye and move on to Brussels, Frankfurt, Zurich, and then Florence.
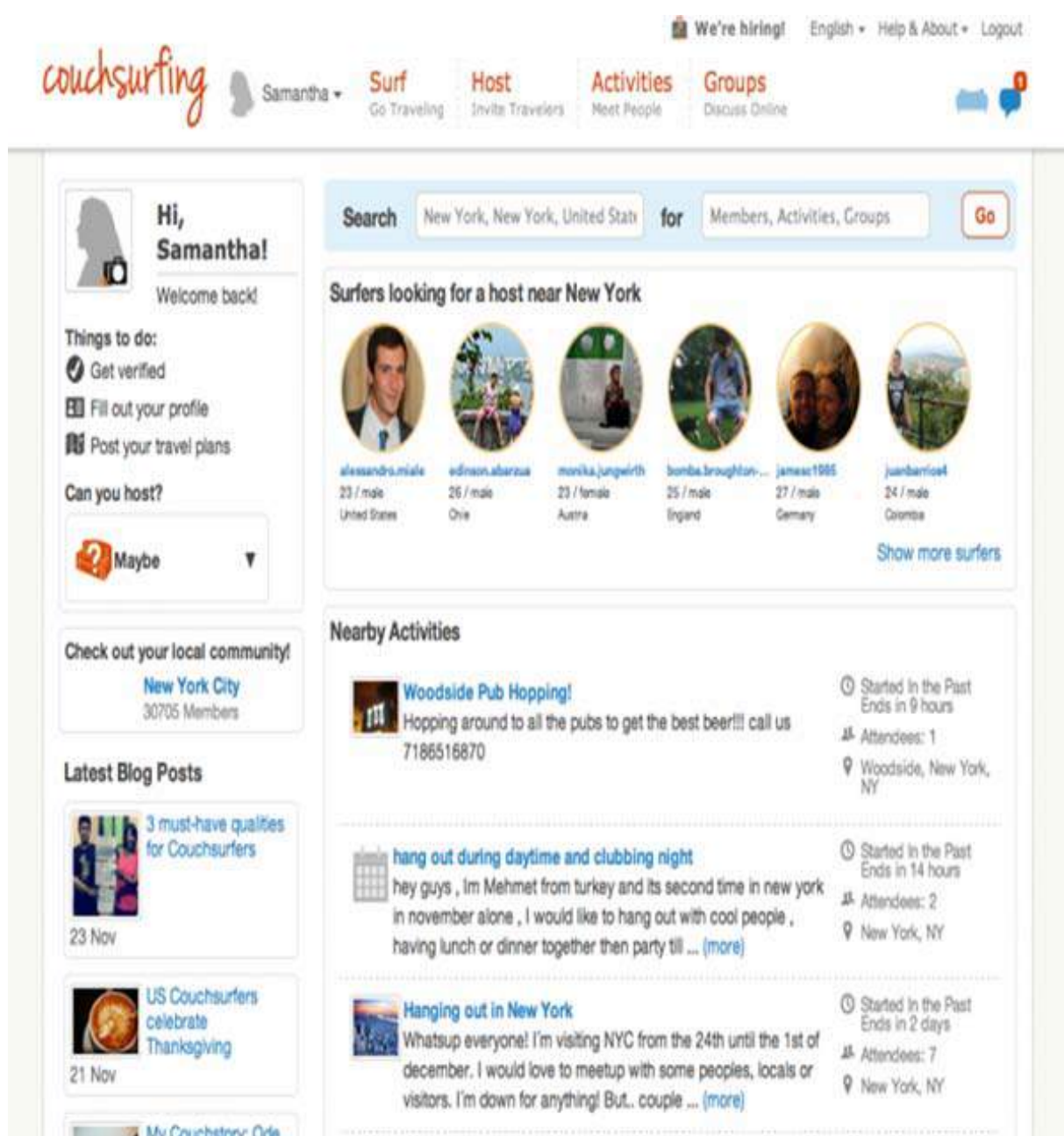
[*Source:* https://www.couchsurfing.org/]
Screenshot of Couch Surfing, a popular C2C travel website

In each location you've met some great people and gotten to experience being a part of the culture through your connection with your host. You go places you would have never read about in a guidebook, meet interesting locals, and spend time bonding with your host.

You're actually experiencing those "deep and meaningful connections" you've read about on the site, and you're making friends for life. And you reciprocate similar facilities to the CouchSurfers that visit your place of residence.

CouchSurfing has implemented several precautionary measures for the benefit of its surfers, hosts, and community. Every user is linked to the other users he or she knows in the system through a network of references and friend links. Not just anyone is a vouched for member.

Members can only become vouched for by an already vouched for CouchSurfing. com member. Essentially, it's a trust circle. It has in place a safety system by name Get Verified to authenticate the credentials of the member. It is shown that a verified member gets more couch requests from other members. Also, a verified member's request for a couch is less likely to be turned down by another member.

CouchSurfing regularly organizes events in the physical world. These events held at different parts of the world and coordinated by volunteers offer members a unique opportunity to interact beyond the limits of the cyberspace. Members can also join some discussion groups in their areas of interest or engage in live chat with other members.

Another C2C (P2P) Example **AirBnB** (Source: www.BoardOfInnovation.com)

Founded in August of 2008 and based in San Francisco, California, Airbnb is a trusted community marketplace for people to list, discover, and book unique accommodations around the world — online or from a mobile phone. Whether it is an apartment for a night, castle for a week, or a villa for a month, Airbnb connects people to unique travelexperiences, at any price point, in more than 33,000 cities and 192 countries.

And with world-class customer service and a growing community of users, Airbnb is the easiest way for people to monetize their extra space and showcase it to an audience of millions.The company so far has more than 1 million renters and hosts, and some 100,000 active listings, mostly for houses, apartments, villas, yurts, and the occasional tree house.

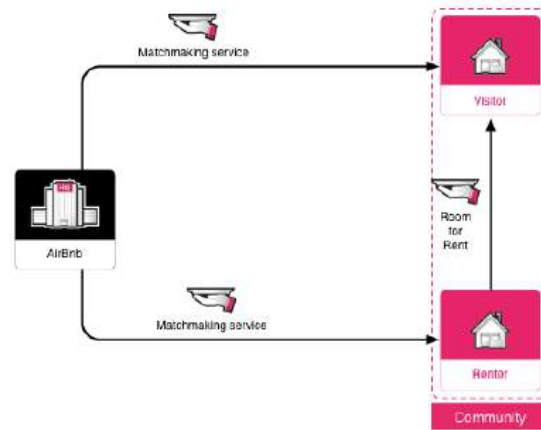A screenshot of the airbnb website is shown below.

[Source: https://www.airbnb.com/]
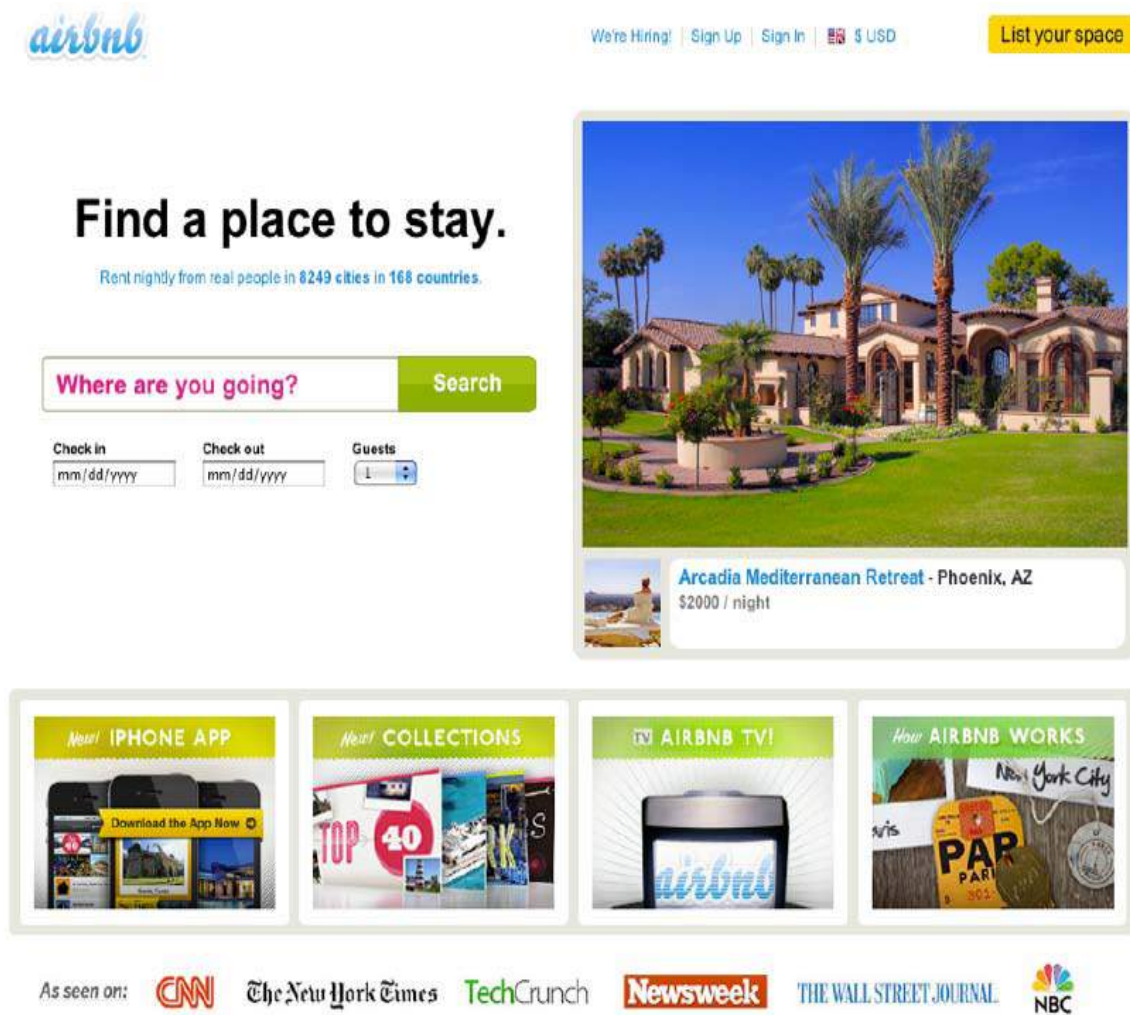
Screenshot of airbnb, a popular peer-to-peer travel website

A. Illustration of AirBnb's business model

B. Illustration of AirBnb's business model

Introduction to C2B Business Models in Tourism

C2B or Consumer- to- Business is a business model where the end consumers create products and services which are consumed by businesses and organizations. It is diametrically opposite to the popular concept of B2C or Business- to- Consumer where the companies make goods and services available to the end consumers.

In C2B, the companies typically pay for the product or service. However, it can assume different forms like an idea generated by an individual (like an innovative business practice) which may be used and implemented by an organization.

Another possible form of C2B is where a consumer specifies a need and the various businesses compete or bid to fulfill that need. It uses reverse pricing models where the customer determines the prices of the product or services. There is increased emphasis on customer empowerment.

Examples of C2B Ecommerce in Tourism

C2B Model in Tourism: Reverse auction sites- Case study of bid2travel.com

BID2Travel is a service, where customers can bid for hotel rooms at various destinations. The concept is simple – Hotels have unsold inventory of rooms, which they make available on BID2Travel.

A user can view the available hotels and place their own bid on the hotel room. Within 3 hours, the hotel provides a response to the customer, and if the bid price is acceptable to the hotel, the booking is confirmed. Unlike the month or two advance booking prevalent on travel / airline websites, bidding for rooms is only open for the upcoming 14 days.

The reverse auction process is a win-win for both customers and hotels. Customers, especially last minute travellers, can avail amazing deals on rooms while hotels are able to make money on what otherwise might have been unsold inventory.

Screen shot of bid2travel as an illustration of C2B e-commerce

The bidding process at Bid2Travel is described below.

[*Source:* http://www.bid2travel.com/how-bidding-works.aspx]

Illustration of a C2B online bidding process

C2B Model in Tourism

Reverse auction sites - atyourprice.in

www.atyourprice.in is a market place where price conscious flexible consumers can buy products/services at the price that they are willing to pay and vendors can dispose of unsold inventory at prices lower than the published price. This is a win-win situation for both consumers and vendors.

To begin with, customers can now buy airline tickets online through our site www. atyourprice.in. In the future their plan is to include other product/services such as hotel, holiday packages, car rentals and other travel services under this concept.

[*Source:* http://www.atyourprice.in/yourprice/index.php]

Screen shot of AtYourPrice as an illustration of C2B e-commerce

Conclusion

This lesson has presented the working of the popular e-commerce business models such as B2B, B2C, C2C and C2B using real-life examples from the global and Indian Travel and Tourism industry. These models have benefitted from several business trends such as developing a eTourism ecosystem, online procurement, cost-cutting initiatives and consumer trends such as community building, peer-to-peer networking and increased price sensitivity. An understanding of these four popular business models provides a comprehensive view of eTourism industry.

Self Assessment Questions

1. Discuss the growth of online travel industry in India by identifying the growth drivers and their impact.

2. Higher margins in the hotel reservation segment have lured many Online Travel Agents (OTAs). How are the critical success factors in this segment different from those in the ticketing segment?

3. Discuss the issues in the online hotel industry that challenge the industry's prospects.

4. What value addition does a meta search engine brings to (a) customers and (b) Tourism service providers?

5. What are the e-commerce components in a B2B Tourism enterprise?

6. Explain the working of a C2C business model in the context of Tourism industry.

7. What is reverse auction business model? Illustrate its relevance or usefulness to the Travel and Tourism industry with examples.

8. What are the key features of a B2C Tourism website?

✦✦✦✦

Unit Structure

Lesson 4.1 - Payment Systems in E-Tourism

Learning Objectives

The objectives of this lesson are:

- ➢ To help you understand the working of online payment systems
- ➢ To highlight the considerations for establishing and accepting payments
- ➢ To familiarize you with the popular online payment systems in India

After going through this lesson, you will be able to:

- ➢ Explain how online payment gateways work (incl. mobile payment systems)
- ➢ Select a payment gateway by balancing the different interests
- ➢ Management the billing settlement plan (BSP) according to IATA's guidelines

Introduction

One of the most important catalysts to global tourism has been the development and growth of electronic payments. The World Bank succinctly summed up the importance of modern payment systems to emerging economies when it said: *Effective and efficient payment systems are vital for the economic development of emerging countries… to promote the development of commerce, enhance economic policy oversight, reduce the financial, capital, and human resources devoted to the transfer of payments and control the risk inherent in moving large values.*

Payment gateway is a web-based service that integrates into an e-commerce website's shopping cart and collects payment information provided by customers at the check-out. The gateway then encrypts the data as a protective measure and transmits it to the card issuing bank for authorization. The authorization response is then sent to the merchant and is displayed to the cardholder. A payment gateway facilitates the transfer of information between a payment portal (such as a website, mobile phone or Interactive Voice Response (IVR) service) and the Front End Processor or acquiring bank. In essence, the payment gateway serves for web-based merchants the same purpose that a point-of-sale (POS) terminal does for brick-and-mortar businesses. Thus a Payment Gateway enables a website to accept payments from customers over the Internet. An e-commerce site would be incomplete without a mechanism to accept payments in real time from customers. The following figure illustrates the payment gateway process:
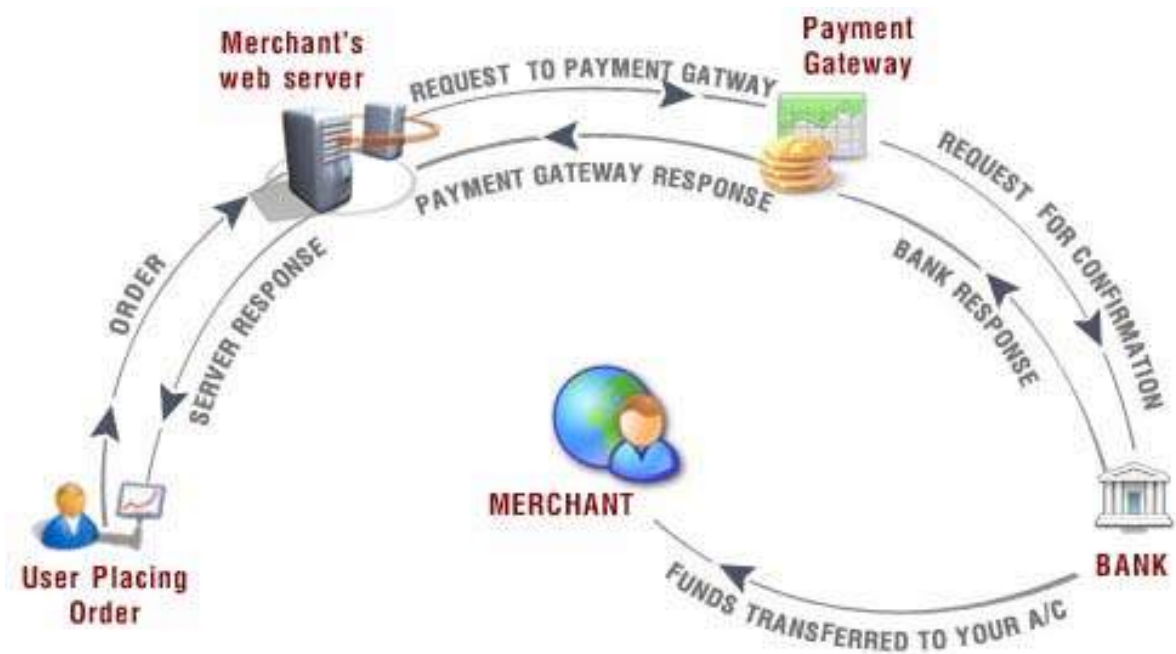
Payment gateway process

Payment Systems

An Internet-enabled business such as e-Tourism has global reach. In this context, it is to be noted that payment infrastructure and payment culture differ significantly by region and country. Maximizing sales in a specific country requires an understanding of how customers prefer to pay for their purchases online, as payment preferences differ worldwide. Unlike the United States, where credit and debit cards are commonly used online, other regions may be more accustomed to bank transfers, direct debit or even cash-on-delivery (COD). For instance, bank transfers are more common in parts of Europe and Asia as illustrated in the following figure.
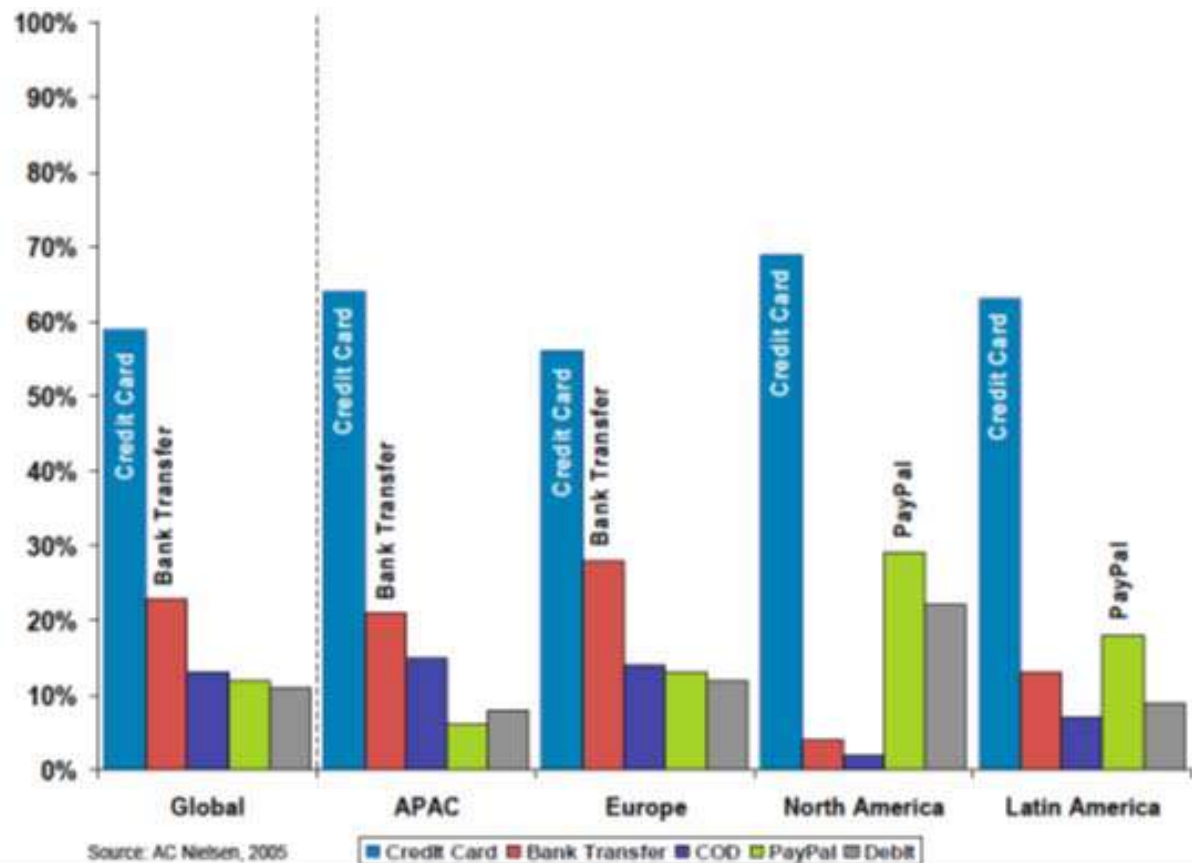
Popularity of different online payment mechanism across regions in the world

Considerations for Establishing and Accepting Payments

When deciding to accept a particular payment type, most companies evaluate whether the additional revenue generated will offset the operational costs incurred throughout the entire "payment pipeline". An industry white paper by Cyber Source Ltd (2005) provides an overview of these considerations as shown in the following figure and as discussed in the following paragraphs:

Considerations for establishing online payments

Selecting Payment Types

The payment types accepted in a given market will be guided by the type of product or service you sell and customer preferences. Online bank transfers are well-suited for

merchants that digitally distribute goods, whereas direct debit works well for subscription-based businesses.

Domicile (Residency) Requirements

Some countries may require a local, physical presence of the merchant in order to conduct business. Others may not require domicile, however, it may be advantageous to establish local presence in order to lower payment acceptance costs (for instance, lower merchant discount fees due to more favourable interchange rates).

Establishing Banking Relationships

Depending on the country and the type of payment offered and also whether cross-border, regional, or in-country processing rates are sought, one needs to establish a merchant account with a local bank. Banking relationships in some countries tend to be somewhat exclusive and require an introduction by a trusted payment partner in order to minimize delays and reduce complexity. The bank selected will also have an impact on the processors and payment types that can be supported.

Taxes

Tax laws vary from country to country, but in general, if you establish local presence in a particular country, you are required to pay taxes in that country, as well as collect sales (or value-added) tax (VAT). The tax status may affect the decision to operate regionally or locally, and will also impact the checkout process, as one need to implement real-time global tax calculation capability.

Checkout Process Considerations

The online checkout process needs to be modified to support additional payment options or comply with regional regulations. For instance, to accept bank transfers, one must display the merchant's bank account number, SWIFT codes (i.e. a Business Identifier Codes (BIC) for a bank approved by the International Organization for Standardization), and provide a reference number for the customer to use to ensure proper account crediting. Direct debits may require securing mandates from the customers, which are paper or electronic authorizations that enable debiting funds directly from their accounts.

Payment Risk Considerations

Because online purchasing patterns differ based on country and payment type, one should determine the target threshold for risk in a specific country, balancing the need to prevent fraud with the need to maximize sales conversion. Payment risk falls into three broad categories:

1. Fraud – the risk that payments are accepted due to deceptive information and/or misrepresentation of identity
2. Credit – the risk that the customer may not have sufficient funds to settle
3. Repudiation – the risk that a customer refuses to honour their payment obligation

Establishing Processing Connections

Along with securing the merchant account for the payment types intend to be offered, one will also need to establish, certify, and maintain connections to the processors that service the banks and the payment types required. As business expands to another country, as is the case in e-business, processing management will become more complex, and the cost structure for payment processing will change.

Settlement and Reconciliation

Because adding payment connections and banking relationships create operational complexity (different data structures, reports, and detail level), a key consideration is how these additions will impact the current reconciliation and settlement processes. Connecting directly to multiple independent processors requires reconciling multiple gateways and deposit reports to order information. Settlement for all payment types typically takes 1 to 4 days (excluding bank holidays), with funding occurring
1 to 7 days after settlement.

Payment Security and Privacy

Security and privacy regulations also vary by country and payment type. Some regions have very strict privacy laws (for example, in Europe, the U.S., and Japan), and the card associations require Payment Card Industry (PCI) compliance by merchants. Both scenarios will impact how sensitive customer information is stored and managed, as well as the security risk exposure.

Considerations by Payment Type

Each payment type has its unique benefits and risks, and may not be universally available. Payment risk varies by payment type, as do the domicile and banking requirements, potential changes to the checkout process, and customer dispute rights.

Credit and Debit Card Payments

Credit and debit cards provide the widest global reach (to over 190 countries), though they may not be the most commonly used payment type in certain countries. Though global bank cards are extensively used in Australia and North America, a number of consumers in other markets prefer regional or country-specific bank cards instead. Although customers may pay with a global bank card, showing support for local bank cards can improve the online merchant's web store presence and follow-on sales in the local market. Not all payment card features are available in every region, and processing rules and procedures may differ greatly across the countries. Merchant discount fees, driven by interchange rates, will vary by country as well.

Bank Transfer Payments

Unlike bank cards or direct debits, where money is *pulled* from the consumer's account, bank transfers require consumers to *push* money to the merchant's local bank account. The merchant provides consumers with the bank account information and they instruct their bank to transfer money. Order conversion can be lower because bank transfers rely on the consumer sending instructions to their bank for prompt payment. In online bank transfer payment, the funds transfer during the actual checkout process has to be approved.

For example, during checkout a window appears with one or more supported banks, the consumer selects their bank, enters their credentials and approves the transaction. Transfer instructions, including the transaction reference number, are automatically passed to the bank by the merchant system during this process. Online bank transfers work well for merchants that provide services that require immediate fulfilment, such as venue ticketing, travel services, and content distribution.

Direct Debit Payments

With direct debits, consumers provide their bank account information, enabling the online merchant to pull funds out of their accounts.

The following table presents a summary of payment considerations by the type of Payment.

	Bank Card	Bank Transfer (Offline)	Bank Transfer (Online)	Direct Debit
Payment Acceptance				
Domicile Requirements	No	Yes	Yes	Yes
Checkout Process	Capture acct. #, exp. date, CVN	Collect bank data, reference #	Collect bank data	Collect bank data
Specialized Processing	Payer authentication	None	Auth. based on customer fund push	Unlimited chargeback rights w/o customer mandate
Order Conversion	High	Medium	High	High
Risk Management				
Credit Risk	None	None	None	High
Fraud Risk	Medium	Low to none	Low to none	Medium to high
Customer Dispute Rights	Avg. 180 days	None	None	4 – 49 days, depending on country
Reporting and Reconciliation				
Settlement	1-4 days	1-4 days	1-4 days	1-4 days
Funding	1-7 days after settlement	1-7 days after settlement	1-7 days after settlement	1-7 days after settlement

[*Source:* Cyber Source Ltd.]

Summary of payment considerations by the type of Payment

Payment Gateway: How it works

When a customer orders a product from a payment gateway-enabled merchant, the payment gateway performs a variety of tasks to process the transaction.

1) A customer places order on website by pressing the 'Submit Order' or equivalent button, or perhaps enters their card details using an automatic phone answering service.

2) If the order is via a website, the customer's web browser encrypts the information to be sent between the browser and the merchant's web server. In between other methods, this may be done via SSL (Secure Socket Layer) encryption.

   1. The payment gateway may allow transaction data to be sent directly from the customer's browser to the gateway, bypassing the merchant's systems. This reduces the merchant's Payment Card Industry Data Security Standard (PCI-DSS) compliance obligations without redirecting the customer away from the website.

3) The merchant then forwards the transaction details to their payment gateway. This is another (SSL) encrypted connection to the payment server hosted by the payment gateway.

4) The payment gateway forwards the transaction information to the payment processor used by the merchant's acquiring bank.

5) The payment processor forwards the transaction information to the card association (e.g., Visa/MasterCard).

6) The credit card issuing bank receives the authorization request and does fraud and credit or debit checks and then sends a response back to the processor (via the same process as the request for authorization) with a response code [eg: approved, denied]. In addition to communicating the fate of the authorization request, the response code is used to define the reason why the transaction failed (such as insufficient funds, or bank link not available). Meanwhile, the credit card issuer holds an authorization associated with that merchant and consumer for the approved amount. This can impact the consumer's ability to further spend (eg: because it reduces the line of credit available or because it puts a hold on a portion of the funds in a debit account).

7) The processor forwards the authorization response to the payment gateway.

8) The payment gateway receives the response, and forwards it on to the website (or whatever interface was used to process the payment) where it is interpreted as a relevant response then relayed back to the merchant and cardholder. This is known as the Authorization or "Auth"

9) The entire process typically takes 2–3 seconds.

10) The merchant then fulfils the order and the above process is repeated but this time to "Clear" the authorization by consummating the transaction. Typically the "Clear" is initiated only after the merchant has fulfilled the transaction (eg: shipped the order). This results in the issuing bank 'clearing' the 'auth' (ie: moves auth-hold to a debit) and prepares them to settle with the merchant acquiring bank.

11) The merchant submits all their approved authorizations, in a "batch" (eg: end of day), to their acquiring bank for settlement via its processor.

12) The acquiring bank makes the batch settlement request of the credit card issuer.

13) The credit card issuer makes a settlement payment to the acquiring bank (eg: the next day)

14) The acquiring bank subsequently deposits the total of the approved funds into the merchant's nominated account (eg: the day after). This could be an account with the acquiring bank if the merchant does their banking with the same bank, or an account with another bank.

15) The entire process from authorization to settlement to funding typically takes 3 days.

Many payment gateways also provide tools to automatically screen orders for fraud and calculate tax in real time prior to the authorization request being sent to the processor. Tools to detect fraud include Geo Location, velocity pattern analysis, OFAC list lookups, 'black-list' lookups, delivery address verification, computer finger printing technology, identity morphing detection, and basic Address Verification System (AVS) checks.

The following security measures are usually undertaken at a Payment Gateway:

➢ Since the customer is usually required to enter personal details, the entire communication of 'Submit Order' page (i.e. customer - payment gateway) is often carried out through Hypertext Transfer Protocol Secure (HTTPS protocol).

➢ To validate the request of the payment page result, signed request is often used - which is the result of the hash function in which the parameters of an application confirmed by a «secret word», known only to the merchant and payment gateway.

➢ To validate the request of the payment page result, sometimes IP of the requesting server has to be verified.

➢ There is a growing support by acquirers, issuers and subsequently by payment gateways for Virtual Payer Authentication (VPA), implemented as 3-D Secure protocol - branded as Verified by VISA, MasterCard Secure Code and J/Secure by JCB along with Card_Verification_Value (CVV), which adds additional layer of security for online payments. 3-D Secure promises to alleviate some of the problems facing online merchants, like the inherent distance between the seller and the buyer, and the inability of the first to easily confirm the identity of the second.

➢ Payment Gateway provider also follow Payment Card Industry Data Security Standard (PCI-DSS), which ensure safety of the cardholder's data

The following illustrative screen shot of a popular Indian payment gateway highlights the required data elements and security measures in place:

Illustrative screen shot of a popular Indian payment gateway

Selecting a Payment Gateway

Every online merchant needs to use a payment gateway from a Service provider. It is important to know the difference between a merchant account and payment gateway. A Merchant account is acquired from the merchant's local bank for handling credit card transactions. It is usually necessary to have an account with the same bank in which they will deposit the payments received through such transactions.

However, acquiring a merchant account does not mean that one can start to sell online; The online merchant will still have to acquire a payment gateway to handle and capture real time transactions. This can be provided directly by the same bank that offered the merchant account in the first place.

A second option is to acquire the Payment Gateway directly from third party payment facilitators like PayPal, CC Avenue and Google Checkout. A merchant needs to sign-up with them to start using their Payment gateway; though the merchant will eventually need to verify personal identity using credit card or bank account to fully use their services. These companies act as a third party to collect money on your behalf. So the money does not get directly credited to the merchant's account; it is first collected by the company that offered the payment gateway and then later gets transferred to the merchant's bank account.

Here are some of the criteria that are important while evaluating a payment gateway:

- ➢ Cost - All payment gateways have an initial setup cost and then charge a small percentage of the transaction. Few have an annual maintenance cost (AMC) as well.

- ➢ Support - How helpful and responsive is the service provider in case of a problem? Do they provide off hours support?

- ➢ Chargeback policy and disputes: What is the policy for charge backs and refunds? What is the policy for disputes?

- ➢ Ease of Integration: Does the service provider provide an easy way to integrate the gateway into the app?

Beyond these basic criteria, additional factors to be considered are: what credit cards / banks are supported by the payment gateway? Do they provide mobile banking option? What is their rate of successful transactions?

Mobile Technology for Payment Systems

According to an article titled 'Electronic payments: A catalyst for tourism and Economic growth' by John Elkins, Executive Vice President of global brand and Marketing, VISA international, use of mobile technology to facilitate payments is a major breakthrough for developing countries, which are leapfrogging beyond landlines and heading straight toward wireless communications.

Merchants and consumers are both able to use mobile technology to facilitate payments, turning a simple mobile phone into a point-of-sale device. The rapid development of new technologies, especially those relating to mobile networks and mobile devices, is creating opportunities to advance efficiencies in electronic payments and better serve new markets and merchant segments. For example, a mobile phone designed for merchants with a secure integrated adaptor that accepts both magnetic stripe and chip cards merges low-cost and wide spread GSM/GPRS mobile phone technology with the capabilities of a point-of-sale terminal, bringing electronic payments to non-traditional locations and merchant categories.

Mobile message-based payments are also expanding the choice of payment available to consumers and merchants alike. In India, Visa has joined with a Bank in India to trial a mobile payments system using text messaging technology. The platform is called *mChek* and it enables both merchants and consumers to use their mobile devices to conduct payment

transactions. Instead of presenting a card, a customer provides a mobile phone number or secure identity code, which the merchant uses to send a text message requesting payment with the transaction amount and other purchase details. Once the customer confirms the transaction by keying in a personal identification number (PIN), the merchant is sent an authorization message that is recorded and stored on the cards of both merchant and customer as receipts.

The *mChek* platform does not require the merchant to have a conventional acceptance terminal, which means that this technology offers electronic payment access to new merchant sectors, such as healthcare providers, taxis, couriers, street vendors, and electricians. Similarly, around the globe and in areas where email is inaccessible, individuals are using the Short Message Service (SMS) to enable the exchange of text messages between mobile phones.

This technology presents a significant opportunity for global tourism; particularly in developing economies where the cost of a single SMS message is quite affordable to the common man.SMS technology can transform the mobile phone into a digital wallet, capable of bridging the physical point of sale with the electronic point of sale.

Such mobile-wallet technology will expand tourism in developing countries by improving the ability to facilitate electronic transactions in locations that were once remote. Tourists ranging from high-school back packers to high-flying business executives will find this technology affordable and accessible. The technology will reduce the difficulty of handling and exchanging unfamiliar currency for travellers who are on trips involving a single or multiple destinations.

Moreover, it will ease the difficulty of engaging local merchants who were previously unable to process electronic transactions. With the simple use of a mobile phone keypad, tourists will find it easier to transcend language barriers and unfamiliar currency to purchase goods and services from the smallest street vendors. This will allow the tourist to gain a better appreciation for the country of destination because it allows increased interaction with local merchants. At the same time, developing economies will get a boost from the ground up, as tourists will be empowered to explore the shops and stalls of countless small businesses and vendors in some of the most remote markets throughout the globe.

As an illustrative example for mobile payments, consider the following screen shot showing Indian Railways (through IRCTC website) that accepts mobile payments through its mobile payment service partner, ngpay.

Step 1
Enter your mobile number in the box on the left of this page and you will receive a SMS from **ngpay** containing a link to download the application. Select the link and follow the instructions to download and install. Once installation is complete, you will find **ngpay** in your applications/games folders. Open **ngpay** to complete a one-time registration process and create your 6 digit ngpay PIN.
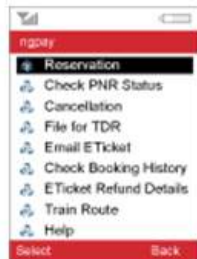
Step 2
Select IRCTC in 'Stores++ > Explore All > Travel n Stay' and follow the instructions displayed to book your ticket and pay from your mobile. Current payment options supported include Visa/MasterCard/Diners credit cards, select debit cards, select bank accounts and select Cash Cards.

Step 3
Your transaction details get stored in the **ngpay** history under the 'My Profile' menu. In addition, **ngpay** also sends you a SMS and an email with the transaction details.

[*Source:* http://www.ngpay.com/site/irctc_product_demo.html]

Illustrative chart showing the working of a mobile payment service

Billing and Settlement Plan (BSP)

The Billing and Settlement Plan (BSP) is a system designed to simplify the selling, reporting and remitting procedures of IATA Accredited Passenger Agents on behalf of BSP Airlines. The first BSP developed by IATA was launched in 1971 in Japan. Today BSP is a worldwide system covering over 170 countries and territories. In 2010, more than 55,000 Agents and 400 Airlines participated in the BSP network, generating gross sales through the BSP of over US$ 221 billion. A key feature of the BSP is the use of the neutral electronic Standard Traffic Document (STD).

Implementation and Management of a BSP

A BSP is introduced when a study reveals that its implementation in a country or area is considered warranted by IATA Settlement Systems (ISS) Management. During the study and before actual implementation, there will always be prior consultation between IATA and the Agent organisations. When a BSP is implemented, a Manager is appointed by IATA.

Advantages of a BSP

The BSP reduces Airline distribution costs and at the same time provides Agents with a cost-effective system for selling the products and services of those Airlines that elect to participate in the BSP. The existence of a BSP enables Airlines and Agents alike to save on administrative overheads, whilst streamlining their services to the customer. It provides more time for BSP participants' selling activities since the administrative burden on management is greatly reduced by the simplification of the issuance, control and reporting of sales and settling of monies due.

For the Agents, the BSP

➤ Provides access to over 400 Airlines participating in the BSPs worldwide using neutral electronic Standard Traffic Documents

➤ Provides one supply source of ticket numbers for electronic tickets

➤ Reduces overhead costs by replacing multiple sales reports with a single point of contact - a central BSP Data Processing Centre (DPC)

➤ Provides a set of Standard Administrative Forms (SAFs) to be used on behalf of all BSP Airlines

➤ Simplifies remittance procedures by establishing one point for Agents' payments

➤ Simplifies staff training through courses organized locally specific to BSP procedures

How the BSP Works

Upon implementation of the BSP, the Accredited Agent:

➤ Receives a range of electronic ticket numbers for ticketing from the Ticket System Provider (TSP)

➤ Receives Ticketing Authorities from Airlines allowing the Agent to issue tickets on their behalf

➤ Receives access to BSP *link* including instructions on the issuance of electronic administrative forms such as Refund Request and Virtual MPDs

Management of BSP

A BSP Manager represents IATA Management in each area of BSP operation. The Manager ensures that adequate assistance, guidance and information at the local level

is available to all parties concerned in the BSP and that proper control is exercised. The following are the roles and responsibilities of a BSP Manager:

- The BSP Manager coordinates the smooth functioning of the BSP according to IATA Resolutions.

- The Manager advises Agents, the DPC and other parties on BSP procedures.

- In emergency situations, the BSP Manager may exceptionally notify Agents of a temporary change to established BSP procedures.

- The BSP Manager provides Agents with access to BSP *link* and instructions on how to use the system.

- Additionally the BSP Manager informs the Agents regarding Customer Service procedures and where to find information regarding BSP rules and regulations.

- The BSP Manager informs the Agency Administrator of irregularities and defaults.

Participants and Service Suppliers in a BSP

Several parties are involved in the operation of a BSP. Some of them, such as BSP Airlines and Agents, are the beneficiaries, while other parties, such as the DPC or Clearing Bank, render core services to the BSP on the basis of a contract with ISS Management. IATA Settlement Systems (ISS) Management is responsible for managing the BSPs.

- Agents: Under the prevailing IATA Passenger Sales Agency rules, where a BSP is implemented, all Approved Locations of Agents become subject to BSP procedures. Agents are properly informed by the Agency Administrator, through ISS Management, of how participation will affect their work methods. Agents are responsible for:

  - The correct use/issuance of STDs and SAFs

  - Timely reporting of transactions to the DPC, either on the day of issue or at intervals set by ISS Management

  - Timely remittances to the Clearing Bank for settlement of billings.

- Airlines: Participation in a given BSP is open to any Airline, whether a Member of IATA or not, that operates services or sells through IATA Agents in the country/area of the BSP.

- Data Processing Centre (DPC) is responsible for:

  - Controlling the timely receipt of data from the Ticket System Providers (TSPs)

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- Capturing, recording and validating the data supplied by the TSPs

- Monitoring and identifying any discrepancies

- Reporting discrepancies

- Preparing and dispatching billings to Agents and BSP Airlines through BSP*link*

- Notifying the Clearing Bank and the BSP Manager of amounts due by Agents

- Notifying BSP Airlines and the BSP Manager of the number of transactions processed and providing them with statistical data as agreed in the contract

- Producing a Hand-Off Tape (HOT) or data transfer in accordance with the Data Interchange Specifications Handbook (DISH)

➢ Clearing Bank: is responsible for:

- Timely receipt and control of Agents' remittances

- Reporting of remittance discrepancies to BSP Management and to the DPC for recalculation of BSP Airlines' shares

- Timely settlement to BSP Airlines of remittances received from Agents

➢ Electronic Ticketing System Provider (TSP): For the introduction and operation of electronic ticketing systems, a contract is concluded between BSP Management and an Electronic Ticketing System Provider, following verification that the TSP's system is capable of the following functions:

- Ability to issue STDs electronically in accordance with the applicable IATA Passenger Services Conference Resolutions

- Ability to verify an Agent's ticketing authority against advice from the BSP Manager

- Ability to provide data in super-long record to the BSP DPC in accordance with the format laid down in the Data Interchange Specifications Handbook (DISH)

- Ability to constrain the issuance of STDs at Agent locations within 24 hours of advice from the BSP Manager or a BSP Airline

- Ability to restrict the number of electronic tickets an Agent can issue in a given period as advised by the BSP airline

➢ Other Travel and Tourism Industry Sectors: The services of a BSP may be extended to parties not directly related to the air transport business. This maybe done on a local, regional or worldwide basis. ISS Management will consider all opportunities

and decide whether a local contract can be concluded or whether an identified opportunity calls for a global contract with the other party. A global contract may be necessary if the extension of the BSP services would benefit more than one BSP.

Standard Traffic Documents (STDs)

Agents issue Electronic Tickets (ETs) and other account able documents on behalf of BSP participating airlines. The following documents are available for use in a BSP:

  ➢ Electronic tickets (ETs)
  ➢ Electronic Miscellaneous Documents (EMDs) — subject to future deployment
  ➢ Automated coupon-by-coupon MCO (paperless or plain paper) VMCO in accordance with Resolution 725d
  ➢ Virtual Multipurpose Miscellaneous Document (VMPD)

Electronic Ticketing is a method to record the sale of passenger transportation without issuance of a paper value ticket. Since 1 June 2008, IATA travel agents within the BSP can only issue electronic tickets. As evidence of their journey, passengers be issued with a passenger itinerary receipt together with the mandatory Ticket Notices.

Such receipt and notices can be provided via a number of means subject to local legal requirements and instructions from airlines. For example:

  ➢ Plain paper
  ➢ Email attachment
  ➢ Facsimile
  ➢ Regular mail

Mandatory Ticket Notices are to be included with the electronic ticket. The method of delivery to a customer of these Notices is for each Agent to determine.

Electronic Miscellaneous Document (EMD) is a method of documenting the sale and tracking the usage of charges (such as residual value, miscellaneous or excess baggage charges) without the issuance of a paper value document. Implementation of the EMD is subject to system development by the GDS and airlines and the plan is to have 100% EMD by the end of 2013 in all BSPs.

Conclusion

The widespread adoption of electronic payments has significantly expanded the sales volume of goods and services, reduced barriers to immediate credit and liquidity, and eased geographic restrictions to trade and exchange. Electronic payments promote travel & Tourism by providing travellers with a form of exchange that is ubiquitous, secure, reliable, and convenient. The advantages of electronic payment as a boon to travel & Tourism are easy to see. For consumers, electronic payment cards, when compared with cash and cheques, offer the convenience of global acceptance, enhanced security and reduced liability in the event of loss or theft, immediate access to funds, as well as access to credit. For merchants, electronic payments offer the advantages of speed and security in transaction processing; freedom from the costly labour, materials, and accounting services required in paper-based processing; better management of cash flow, inventory, and financial planning; cost and risk savings due to the elimination of the need to run an in-house credit facility; and, perhaps most importantly, the incremental increase in purchasing power on the part of the consumer.

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Lesson 4.2 - Security Issues in Tourism

Learning Objectives

To help you understand the working of online security tools such as data encryption and firewalls

➢ To highlight the role of e-commerce security assurance

➢ To familiarize you with the concepts and terms related to Online security

After going through this lesson, you will be able to:

➢ Explain how data encryption and firewalls work

➢ Understand the different types of online security threats

➢ Differentiate between privacy, integrity and security assurance services

Introduction

Travel & Tourism is the biggest segment of the e-commerce domain in India, as well as on a global platform. Therefore it is vital that travel and tourism e-commerce sites are secured to ensure safe transactions for customers. The overwhelming response of the consumers towards the online travel segment was triggered by the entry of low cost carriers (LCCs). Also, the International Air Transport Association (IATA), an air travel regulatory agency, had e-ticket rollout in 2008. As a result, the industry saw an upsurge of bricks-and-mortar and brick-and-clicks tour operators and emergence in the pure-clicks travel aggregators and online travel agents (OTAs). The industry has since then witnessed an increase in the number of travellers as well as number of travels per traveller. However, the biggest issue facing this industry is limited penetration of credit cards, coupled with consumer's apprehensions towards online security and privacy issues. If travel & tourism e-commerce is to live up to its full potential, the players – both suppliers and intermediaries – must gain an understanding of which risks online customers are most concerned with as well as what specific steps can be taken to help reduce such risk perceptions by making security assurances.

Background to Online Security Issues

The Internet is a publicly owned medium and the sender has no control over the channels that carry information to the receiver across a network of computers. This gives any intermediary computer in the network, the potential capacity to eavesdrop, and make copies of the information, or, even to maliciously misrepresent itself as the intended receiver. Hackers may even attack the computers of the sender and the receiver. Confidential information such as passwords or credit card numbers is especially susceptible to such abuse.

These threat perceptions, since the early days of e-commerce, have acted as barriers and inhibitors to e-commerce. The most frequently cited reasons for not purchasing travel products online are, in the order of precedence: credit card security, no assessment of product quality, privacy issues and 'rather purchase locally'. One of the most important reasons for not using an online channel for purchasing is the lack of trust: unfamiliar vendors as well as insecurity of transactions and personal information. In short, the discussion on barriers to e-commerce has focused mainly on security of transactions, privacy of customers' personal information and general trust in the vendor of whom the customer has not any prior experience. However, a number of security options are available and the vast potential of the Internet in the form of e-commerce can be realized surmounting these issues.

Here are some important terms to be familiar with in the context of online security:

➢ A computer 'virus' is a piece of code that is secretly introduced into a system in order to corrupt it or destroy data. Some viruses damage the computer by damaging programs, deleting files, or reformatting the hard disk while some others make their presence felt by presenting text, video, or audio messages. They eat into limited memory resources and introduce bugs leading to system crashes and possible data corruption and loss.

➢ A 'worm' is special type of virus that spreads without any user interaction, typically by exploiting a flaw in popular software.

➢ 'Trojans' are virus-like programs that disguise themselves as legitimate programs and generate unwanted effects. But, unlike viruses, they do not replicate and expand in numbers.

➢ Spyware refers to software that secretly gathers information about a user while he navigates the Internet. Spyware is sometimes used for identity theft, the act of obtaining the personal or financial information of another person for the purpose of assuming that person's name to make transactions or purchases.

➢ Adware is software that automatically downloads, installs, and plays advertising materials on a computer that runs particular programs. Many computer programs come with advertising and sometimes even spying functions integrated into them and are often detrimental to security.

➢ A root kit is a group of programs designed to take the administrative control of a computer system in an illegitimate way.

➢ 'Malware' (abbreviated form of 'malicious software') is a term that is increasingly being used to represent all the aforementioned programs that are designed to infiltrate or damage a computer system without the user's informed consent.

➢ Phishing is an attempt to fraudulently acquire sensitive information, such as usernames, passwords and credit card details, by masquerading as a trustworthy entity in an electronic communication.

• The following figures illustrate the threat of phishing in dealing with the popular third part payment facilitator, PayPal. The first image is that of an email appearing to be genuine and asking the user to update the personal records on PayPal by clicking on the link provided. However, when the link is clicked by the unassuming and unsuspecting user, a fake webpage opens up purporting to be the actual PayPal page. This fake page is shown in the nect figure. Note the circled portion of the URL to understand that is a fake page that the user is being directed to.

Dear valued PayPal® member:

Due to concerns, for the safety and integrity of the paypal account we have issued this warning message.

It has come to our attention that your PayPal® account information needs to be updated as part of our continuing commitment to protect your account and to reduce the instance of fraud on our website. If you could please take 5-10 minutes out of your online experience and update your personal records you will not run into any future problems with the online service.

However, failure to update your records will result in account suspension. Please update your records on or before **May 12, 2005**.

Once you have updated your account records your paypal account service will not be interrupted and will continue as normal.

To update your PayPal® records click on the following link:
http://www.paypal.com/cgi-bin/webscr?cmd=_login-run

Thank You.
PayPal® UPDATE TEAM

Accounts Management As outlined in our User Agreement, PayPal® will periodically send you information about site changes and enhancements.

Visit our Privacy Policy and User Agreement if you have any questions.
http://www.paypal.com/cgi-bin/webscr?cmd=p/qen/ua/policy_privacy-outside

Phishing attack through an email invitation

Phishing attack through information solicitation on a fake page

➢ Vishing, similar to phishing, involves an individual getting an email or a call from a number saying his bank accounts have been deactivated due to an un authorised transaction. The email or the call also asks him to call up a phone number to get this rectified. Falling for this trap, the individual ends up calling up the number and disclosing confidential information over the internet. This information is misused by the criminals.

➢ Technical attacks are one of the most challenging types of security compromise an e-commerce provider must face. Perpetrators of technical attacks, and in particular Denial-of-Service attacks, typically target sites or services hosted on high-profile web servers such as banks, credit card payment gateways and popular social networking sites.

There are two popular tools, namely data encryption and firewall, to ensure data security during data transmission on a network of computers

- ➢ **Data Encryption: It is** the process of translating plain text data (*plaintext*) into something that appears to be random and meaningless (*cipher text*). Decryption is the process of converting cipher text back to plaintext. Encryption converts data into an encoded form before it is sent over the Internet, thus preventing unauthorized access to the information. Encryption is the most effective way to achieve data security. To read an encrypted file, you must have access to a secret key or password that enables you to *decrypt* it. There are two main types of encryption: asymmetric encryption (also called public-key encryption) and symmetric encryption.

  - • Asymmetric encryption is a cryptographic system that uses two keys — a *public key* known to everyone and a *private* or *secret key* known only to the recipient of the message. An important element to the public key system is that the public and private keys are related in such a way that only the public key can be used to encrypt messages and only the corresponding private key can be used to decrypt them. The following figure illustrates that. Moreover, it is virtually impossible to deduce the private key if you know the public key. Public-key systems, such as Pretty Good Privacy (PGP), are becoming popular for transmitting information via the Internet.
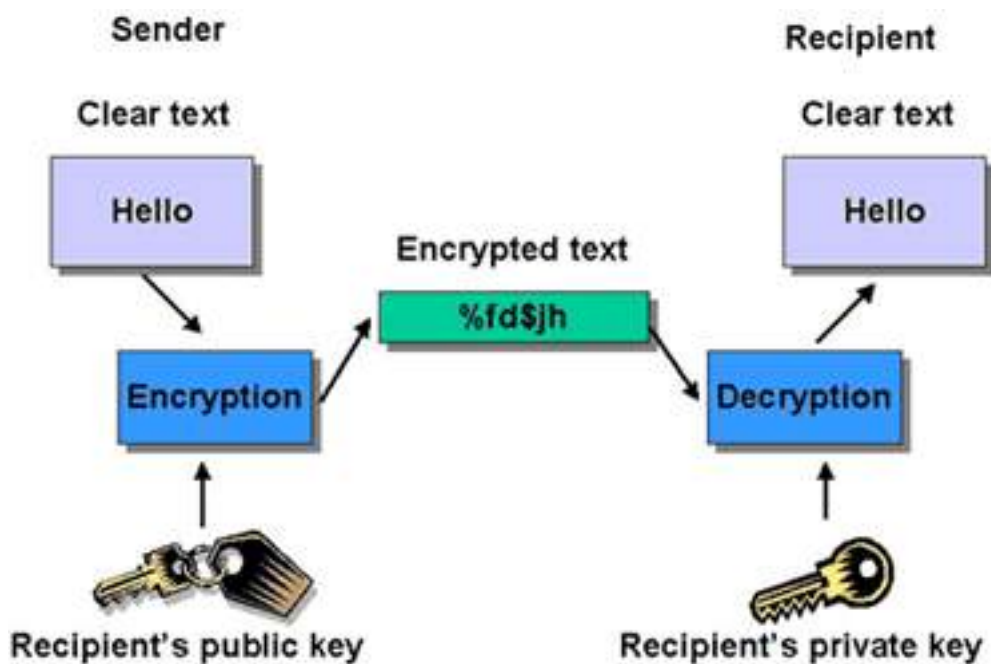
Asymmetric encryption

- Symmetric encryption is a type of encryption where the same key is used to encrypt and decrypt the message, as shown in the following figure. This differs from asymmetric (or public-key) encryption, which uses one key to encrypt a message and another to decrypt the message
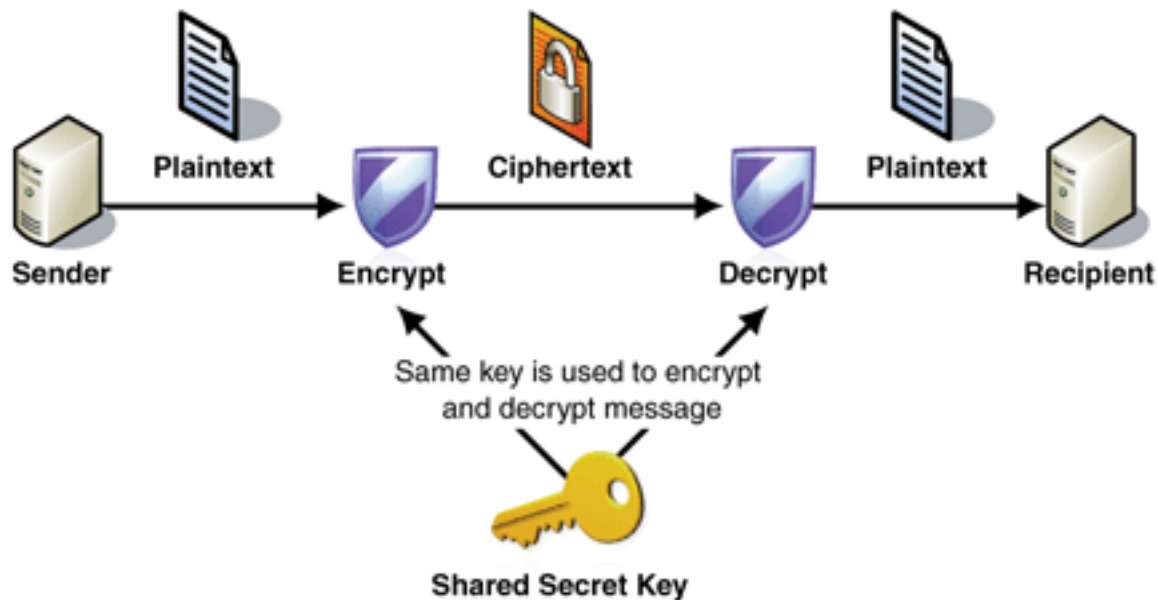
Symmetric encryption

➢ **Firewall:** As the name implies, a computer firewall is like the firewalls used in building construction to prevent the spread of fire from one room to another: it is a dedicated hardware system or software running on a computer, which inspects network traffic passing through it, and denies or permits passage based on a set of rules. For example, one simple rule could be on how to discriminate the internet (low trust zone) from the intranet (high trust zone). A firewall protects an individual computer or a smaller network from a larger network. It is installed at the point where the networks interconnect. Firewalls can be configured for each of the computers in a network, or at the common point that connect the internal network to the internet, or both. Most of the personal computers come with a pre-installed firewall. In addition, there exist in the market many other software based firewall solutions, too. In addition, businesses often install a common firewall, often a dedicated software-hardware combination, for each of the internet connections that they may have. In this way, a business can control how employees connect to websites, whether files are allowed to leave the company over the network, and so on. A firewall gives the company tremendous control over how people use the computer network. The following figure illustrates the working of a firewall:
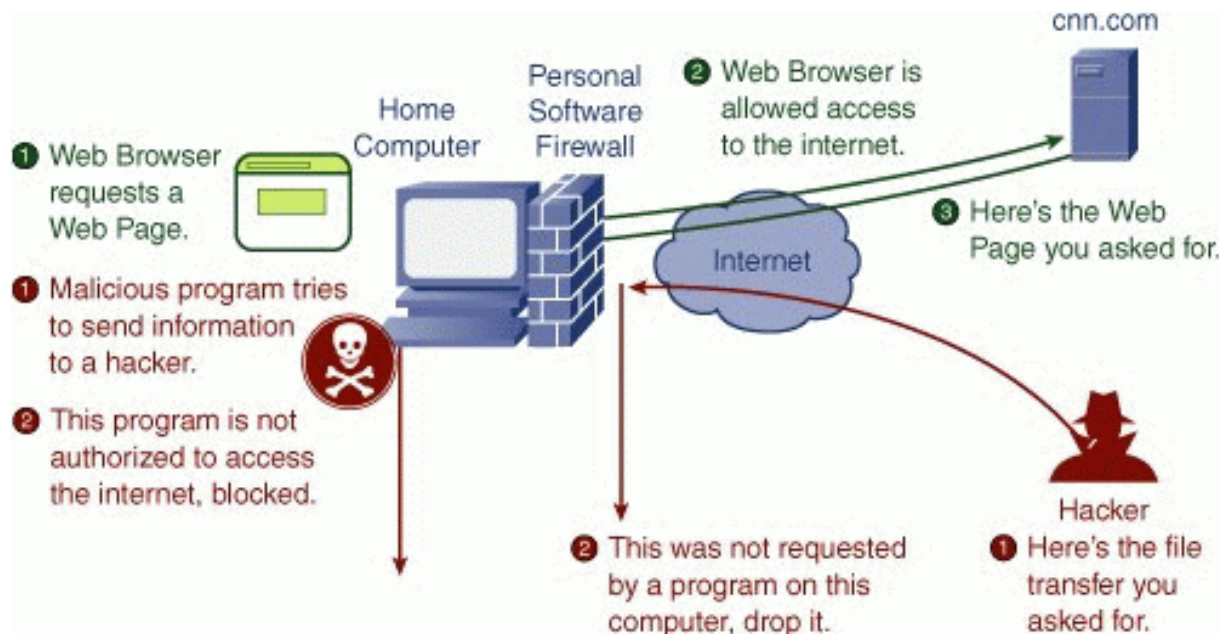
The working of a firewall

Firewalls adopt a combination of the following technologies to achieve the result:

➢ Packet filter: In this method, the firewall examines the packets of information entering and leaving the network against a set of rules on whether to allow or prevent the packets. Packets that do not meet the condition are not allowed to cross the firewall. Even though packet filtering is generally effective, ever increasing Internet Protocol (IP) spoofing attacks (a technique by which intruders send messages to a computer with an IP address indicating that the message is coming from a trusted host) have reduced its agility.

➢ Proxy Server: Here, instead of the information requesting computer directly sending the request to the information serving computer, the firewall is configured to do that job. The firewall receives the information and then sends it to the computer inside the organization. The proxy server hides the true network addresses of the computer that requests the information. The proxy server acts as a client to the server and as a server to the client. This way, it is a 'proxy' for both and prevents an external computer from directly accessing the internal systems of an organization.

➢ Stateful Inspection: A relatively newer firewalling technique, in which, instead of examining the contents of each and every packet, certain key parts of the packet are compared to a database containing trusted information. In one scheme, information leaving to the internet is compared with the information coming in to the internal network. If the information that comes in does not match the information that leaves, the same is rejected. The rules mostly involve values of data packet control fields like

IP source and destination addresses and Transmission Control Protocol (TCP) port numbers.

➤ Application Gateway: In this method, specific applications are permitted or specific applications are prevented. Different types and degrees of security mechanisms are applied to different applications such as File Transfer Protocol (FTP).

➤ Circuit Gateway: Here, security mechanisms are used only until a connection is made or circuit is established. Once the circuit is made, data movements will become unconstrained.

Sometimes, access for external computers will be limited to a selected computer only. Such a computer that is in a network strongly protected by a firewall is called a 'bastion host'. In this case, since only one host can be directly attacked, only this one host needs to be very strongly protected, so security can be maintained more easily and less expensively. To ease legitimate traffic, some services may be given more relaxation - say, the common Hypertext Transfer Protocol (HTTP) where as some others may undergo stricter scrutiny - say, through a network protocol such as TELNET.

Third-Party Certification for E-Commerce Security Assurance

Assurance is the degree of confidence that security measures, both technical and operational, work as intended or planned. Information assurance aims to improve the quality or state of being secure at situations where the consumer is not quite familiar with the background of a business. While transacting online has become a necessary and commonplace, not all consumers are completely comfortable using the Internet for transacting business because of concerns regarding security of their transactions. For these situations, consumer trust and confidence can be enhanced by web assurance services. The most widely used computer security model is the CIA (confidentiality, integrity and availability) triangle framework which addresses the fundamental concerns regarding the vulnerability of information security. Sivasailam*et* al. (2002) have developed six web assurance dimensions: security, transaction integrity, authenticity, privacy compliance, business integrity and financial settlements.

Assurance seal services are based on the idea of making the vulnerable entity (the consumer) more comfortable with the transaction and ensuring that the other (the company) follows through on its promises. The purpose of assurance seals is to provide assurance to consumers that a website discloses and follows through with its operating practices, that it handles payments in a secure and reliable way, that it has certain return policies, or that it complies with a privacy policy that says what it can and cannot do with

the collected personal data. The following figure shows the popular third-party assurance seals (also called as 'trust marks':

Popular e-commerce third-party assurance seals or trust marks

E-Commerce Security Assurance Concerns

Every third-party assurance service must satisfy certain concerns of e-commerce security. Although the AICPA-Yankelovich (1997) study identified six e-commerce security assurance dimensions, viz., cluster security, transaction integrity, authenticity of parties, business integrity, financial settlements and privacy compliance, standard industry practices tend to cluster security, transaction integrity, and authenticity of parties into one overarching area - security. Business integrity and financial settlements combine to form the business integrity area, and privacy compliance forms the third area, privacy.

➢ **Privacy Assurance Services:** TRUSTe and BBB Online were among the first providers of privacy assurance in e-commerce. As first movers, they may be vulnerable to traditional competitors (CA/CPA firms) who have proven reputations and expertise in the assurance business. The ability to develop high quality standards and proven reputations for independence are key attributes that could give CA/CPA firms a competitive advantage. These two programs have similar requirements. To be eligible

for a TRUSTe license, websites must comply with its principles of the privacy program (http//www.TRUSTe.com). User right to choice and consent over how their personal information is used and shared is one of these principles. Other principles concern the posting of a privacy policy, and disclosure about the collection and use of personal information, use of cookies, and third parties using cookies to collect data on the website. TRUSTe monitors its licensees' compliance with their own posted privacy policies and the TRUSTe program requirements. The oversight processes include initial and periodic website reviews, 'seeding' and online community monitoring. TRUSTe also resolves privacy complaints and requires its licensees to cooperate with its reviews and inquiries.

➢ **Integrity Assurance Services:** Web Trust and a related service by PWC (called PWC Better Web) offer assurance to consumers about the integrity of transaction processing, ability of the website to provide goods and services, sales terms, and handling of customer complaints. These items provide some assurance to consumers that the website is an authentic business with some ability to provide legitimate goods or services. This is however, quite incomplete because it provides no assurance that controls are in place to monitor or prevent misbehavior by outside agents.

➢ **Security Assurance Services:** VeriSign assurance seals are popular and they focuses specifically on security level issues. The basic requirement for VeriSign are (1) third-party verification of the business entity's registration information, (2) domain name confirmation, (3) export controls confirmation in regard to encryption practices, and (4) use of VeriSign's products that facilitate transmission of encrypted data and verification of parties involved in a transaction. Web Trust is another comprehensive security assurance services. While most of the other certifications are done on an annual basis, Web Trust must be renewed every 90 days. Three principles form the guiding framework: (1) business practices and information privacy must be disclosed on-line and transactions must be executed as prescribed, (2) transaction integrity (i.e. customer transactions are completed and billed as agreed), and (3) the entity maintains effective controls over customers' information. It may be noted that popular Online Travel Agency (OTA) websites such as MakeMyTrip.com and Expedia.co.in have also subscribed to the credit card companies (such as Visa and MasterCard) for security validation service.

Sivasailam*et* al. (2002) have developed six web assurance dimensions: security, transaction integrity, authenticity, privacy compliance, business integrity and financial settlements. But the observation of OTAs in this study provided scope to identify one more dimension, namely user-agreement compliance. Further observation of privacy policies posted on the OTA website indicated a demarcation between intra- and inter-organizational

privacy compliance. The revised web assurance dimensions addressing the three major customer concerns, viz. security, privacy and business integrity are shown in Table. The issues addressed by them and the potential remedies are also highlighted.

Dimensions of e-commerce security assurance

Customer concerns	Assurance Dimensions	Issue Addressed	Potential remedy
Security	Transaction Security	Unauthorized access Distributed denial of service attacks	Intrusion detection software Firewalls, traffic management software, back-up servers and IP numbers, proper password generation guidelines, prompt application of software patches and proxy servers
Security	Transaction integrity	Alteration/deletion/ duplication of docs Diversion/non receipt of docs	Software controls Encryption, electronic receipts for Sender
Security	Authenticity of parties to transaction	Identity theft	Digital signatures/certificates (such as those from VeriSign) and encryption
Privacy	Intra-organizational Privacy Compliance	Unauthorized access Inappropriate use	Software/electronic controls Physical controls, managerial controls/ restrictions to access data that could aid in profiling; and privacy seals like TRUSTe, BBB Online, Web Trust and so on
Privacy	Inter-organizational Privacy compliance	Data theft Unintended use	Physical controls, managerial controls/ restrictions to access data that could aid in profiling; and privacy seals like TRUSTe, BBB Online, Web Trust and so on
Integrity	Business Integrity	Grievance redress	Comprehensive audit of business practices, role of arbitrator/mediator, and seals like BBB Online reliability
Integrity	Agreement compliance	User agreement violation	Enforcement (like Children's online privacy protection act) Role of arbitrator/mediator
Integrity	Financial Settlements	Diversion of payments Escrow Services Unauthorized usage of financial data Non-repudiation	Escrow Services

[*Source:* Adapted from Sivasailam*et al.* 2002]

Dimension-wise popular Third-party e-Commerce assurance seals

Comparison Between Popular Third-Party Assurance Seals/Certification

	Web trust	Trust e	VeriSign	Thawte	McAfee	BBB online
Promoters	Mainly AICPA (*US), CICA (Canada)	It's a private, independent, non-profit organization (Electronic Frontier Foundation (EFF), Commerce. Net)	VeriSign Inc.	Originally from Shuttle worth, and in 1999 VeriSign acquired	McAfee Inc. Inc.	Council of Better Business Bureaus(CBBB) and Canadian Council of Better Business Bureaus(CCBBB)
Conception date	1997	1997	1995	Jan 2000 (after an early rollover on 1998) – started on 1995	1987	1912
Present scope	Wide range of issues e.g. technology, business practice, internal control & privacy	Internet privacy	SSLs, Domain name services, Security services, communication services, content and messaging services	Public key certificates (Security)	Security technology	Not available
Assessment assurance mechanism	Independent Third party to perform extensive audit, typically Web Trust certified CPAs	Independent Third party to perform extensive audit, typically Trust e certified CPAs	Independent Third party to perform extensive audit, typically Trust e certified CPAs and CAs	Independent Third party to perform extensive audit, typically Trust e certified CPAs and CAs	Independent Third party to perform extensive audit, typically Web Trust certified CPAs and CAs	Independent Third party to perform extensive audit, typically Trust e certified CPAs

The effectiveness of assurance seals/certifications/trust marks on e-commerce sites depends on customer recognition of the logo and the associated recall of its credibility and functionality. All e-commerce websites may not require these seals since brand recognition can play a big role in inducing online trust. Therefore these assurance seals are more significant for small and medium –size enterprises, as they offer a form of reassurance to first time shoppers. After that, a good customer experience will play a bigger role in a customer's decision to return to the website.

E-commerce assurance is necessary in order to build customer trust. Businesses must become more proactive in obtaining and displaying assurance seals on their websites. When customers' distrust of companies is high, these seals will help. Affirmative action by the government, coupled with self-imposed reforms by assurance service providers could possibly discourage corrupt practices and boost consumer confidence in assurance seals and also the state of travel e-commerce. As e-commerce transactions become increasingly complex, coupled with increased regulations and liability exposure, the need for assurance in e-commerce protocols is likely to grow.

Conclusion

The e-commerce industry in general and the travel & tourism e-commerce in particular face challenges in terms of risks to customer privacy, transaction security and business integrity. With increasing technical know-how, and its widespread availability on the internet, the online criminals are becoming more sophisticated in the deceptions and attacks they can perform. Novel attack strategies and vulnerabilities become known only when a perpetrator has uncovered and exploited them. In saying this, there are multiple security strategies (to prevent and to counter attacks) available to e-tourism service providers to reduce the risk of attack and compromise significantly. Awareness of the risks and the implementation of multi-layered security protocols, detailed and open privacy policies and strong authentication and encryption measures, and security assurance in the form of third-party assurance seals will go a long way in assuring the consumer of security, privacy and integrity.

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Lesson 4.3 - Future of E-Tourism

Learning Objectives

- ➢ The objectives of this lesson are:
- ➢ To help you understand the impact of Web 2.0 (a.k.a. Social Web) on the Tourism industry
- ➢ To highlight the popular Web 2.0 applications in the Tourism industry

To familiarize you with the social media trends behind the Web 2.0 applications

- ➢ After going through this lesson, you will be able to:
- ➢ Explain the utility of the Internet in marketing products such Tourism
- ➢ Understand the emergence and trends in Web 2.0

Appreciate the usefulness of Web 2.0 applications such as Blogs, RSS (Really Simple Syndication), Social Networking, Podcasts, Online Video, Tagging, Mash-ups and Wikis for Tourism enterprises

Introduction

In the past few years, developments in the Internet technology have deeply impacted the tourism industry. One of the most significant and recent changes has been the proliferation of Web 2.0 and the resultant Social media, and their impact (collectively referred to as Tourism 2.0) on travel and tourism sectors. Trends such as Blogs, RSS (Really Simple Syndication), Social Networking, Podcasts, Online Video, Tagging, Mash-ups and Wikis will shape the immediate future of e-Tourism.

The social media has challenged the traditional marketing and distribution channels in these sectors and influenced the decision-making process of the tourists. User-generated content (such as hotel reviews on popular websites such as TripAdvisor.co.in and Raahi.com) play major role in planning tours/trips. Travellers and hoteliers have started acknowledging comments, responses and feedbacks by other customers in selecting a tour destination or hotel. These new developments in Web 2.0 pose both challenges and opportunities for the

marketer. This chapter explains the synergy between the Internet and Tourism marketing, the trends shaping the future of e-Tourism and identifies the impact and business benefits of Web 2.0 applications in the Indian tourism industry.

Internet and Marketing of Tourism Products

The heterogeneous, intangible and perishable nature of tourism products distinguishes them from other industries and explains the importance of information in this industry. Due to the pivotal role information plays in the description, promotion, distribution, amalgamation, organization and delivery of tourism products, the Internet technology has become a main source of sustainable competitive advantage and a strategic option. The development of tourism e-commerce can allow firms to access new customers, access remote or niche markets and offer alternative access to traditional customers.

E-marketing is attractive to the tourism industry as travel is an information-based product and the Internet is full of information. Unlike durable goods, intangible tourism services cannot be physically displayed or inspected at the point of sale before purchasing. They are bought before the time of their use and away from the place of consumption. With these inherent characteristics, the tourism industry is almost entirely dependent upon information availability, representation, description and exchange to help tourists make a purchase decision. Timely and accurate information, relevant to consumers' needs, is often the key to satisfaction of tourist demand. The tourism industry is learning fast that the Internet can satisfy these marketing imperatives far better than any other existing technology. The Internet and the related ITs provide the information backbone that facilitates tourism. In few other economic activities are the generation, gathering, processing, application and communication of information as important as in tourism for day-to-day operations.

Tourism and Internet are ideal partners (WTO, 2001). For tourism enterprises, the Internet offers the potential to make their products available to a large number of tourists at relatively low cost. It also provides a tool for integrated marketing strategy through communication and relationship development with tourism suppliers and intermediaries, as well as customers. For tourism consumers, among various channels to market, the Internet has probably received the greatest attention and produced the highest expectations of impact and adoption. As today's consumers are more focussed on time saving and are more likely to access a greater proliferation of product information, the Internet offers several advantages for information search and online shopping. These factors have resulted in the tourism and travel sector taking a larger share of e-commerce globally.

Web 2.0 and its impact on Tourism Industry

There are many industries that have changed from the era of Web1.0 to Web 2.0. Tourism industry is no exception. Tourism enterprises like travel agencies, hotels, destination marketers, event management organisations have been seriously challenged by the rise of Internet as an intermediary and infomediary. At the same time, it has opened up a new world of opportunities for the businesses. One noteworthy change is that all the innovations in Web1.0 era were largely confined to United States, while Web 2.0 is a more global phenomenon with India experiencing a substantial presence.

Tim O'Reilly, the tech Guru who popularized the term Web 2.0, describes it as the business revolution in the Information Technology (IT) industry caused by the move to the Internet as a platform, and an attempt to understand the rules for success on that new platform (O'Reilly, 2005). Chief among those rules is building applications that harness network effects to get better and get more people use them. Web 2.0 is commonly associated with Web applications that facilitate the interactive information sharing, interoperability, user-centered design and collaboration on the World Wide Web.

The Internet has now become the backbone of tourism industry driving its growth and reach far and wide. The online travel retail has experienced explosive growth in recent years. Development of Web 2.0 further emphasizes the Internet's role in the travel industry. This progress is the outcome of consumers being overloaded with information and their increasing disinterest towards advertising and marketing. This trend has prompted the rise of influential Customer-to-Customer (C2C) communication through the use of Web 2.0.

In reality, many consumers these days consult their friends in the online community, members in a travel forum or blog reviews by the real customer to plan their holiday trips rather than searching through official tourism boards and companies' Websites. This consumer revolution has effectively transferred much power from suppliers to customers. Web 2.0 technologies/applications can be considered as the *tools of mass collaboration*, since they empower Internet users to actively participate and simultaneously collaborate with other users for producing, consuming and diffusing the information and knowledge being distributed through the Internet (Sigala, 2007). These applications also provide exciting opportunities for the marketer to meet the customers directly and make them co-creators.

Traditionally, the tourism industry has had an anxiety about the new technologies. Particularly with social media, there is a sense of apprehension about the public offering negative comments about a hotel or brand. But, instead of fearing, they need to listen to the customers' comments and act upon the suggestions. Marketing these days is no longer

about broadcasting marketing communication. The game has changed to engaging in a dialogue with customers directly.

India has tremendous prospects in the arena of tourism. As per the Travel and Tourism Competitiveness Report 2013 (World Economic Forum, 2009) India is ranked 65th overall in terms of the industry competitiveness. According to the latest Travel & Tourism Economic Impact (World travel and tourism council, 2009) report, demand for travel and tourism in India is expected to grow by 8.2 per cent between 2010 and 2019 and will place India at the third position in the world.

The India travel and tourism industry ranked 5th in the long-term (10-year) growth and is expected to be the second largest employer in the world by 2019.This increasing growth rate in the tourism industry poses the burning need for efficient marketing and distribution channels, improved business development and effective market research. For this, we need to develop new Web tools, that is, Web 2.0 applications as a cyber-intermediary which enables the Internet users to create and distribute the content and help each other in order to better satisfy their needs.

1. The tourism industry is increasingly looking for cost-effective Internet solutions to increase its productivity, streamline its processes, improve its decision-making efforts and overcome its operational inefficiencies. So the Web 2.0 must be seen as a new stage in the evolution of the networked world, namely as the new generation of online applications sharing a number of common traits. The key innovative elements typifying this new family of Web applications can be summarized as three main principles. (Constandinides and Fountain, 2007).These principles are:

2. Focus on service-based, simple and open-source solutions in the form of online applications.

3. Continuous and incremental application development requiring the participation and interaction of users in new ways: not only 'consuming' but also contributing, reviewing and editing content.

New service-based business models and new opportunities for reaching small individual customers with low-volume products.

In other words, Web 2.0 tools do nothing more than realizing and exploiting the full potential of the genuine concept and role of the Internet (that is, the network of the networks that is created and exists for its users). The content and information generated by users of Web 2.0 technologies have not only impacted the expectations and decision-

making behaviour of Internet users, but also the e-business model that businesses need to develop and/or adapt. The major applications of Web 2.0 technologies in the tourism industry are the following:

1. Blogs/ Weblogs
2. RSS (Really Simple Syndication)
3. Social Networking Service
4. Podcast
5. Online Video
6. Tagging
7. Mash-ups
8. Wikis

Success potentials of these Web 2.0 technologies actually build a new outlook to the accommodation sector. For example, if all hotels would just get rid of their customer satisfaction survey and instead invite their guests to share their thoughts on review Websites, it would be a win-win situation for everyone. Travel and tourism companies are just beginning to discover the importance of Web 2.0, which is the next stage in the evolution of the Internet, taking it from being solely an information and commerce platform to this new networking phase (Wong, 2007).

By understanding the importance of C2C networking and building this into their online strategies, travel companies will build brand loyalty through repeat visits and consumer interaction. The following sections discuss the application of Web 2.0 tools to the tourism industry, steps to be taken by the tourism enterprises and highlights some of the Indian initiatives.

Web 2.0 Applications in Indian Tourism Industry

Blogging

A blog is a type of Website, usually maintained by an individual with regular entries of commentary, descriptions of events, or other material such as graphics or video. Many blogs provide commentary or news on a particular subject; others function as more personal online diaries. A typical blog combines text, images, and links to other blogs, Web pages, and other media related to its topic. The ability of readers to leave comments in an interactive format is an important part of a blog.

Business Benefits of Having a Blog

Blogs allow the corporates to post daily tips and needed information to their customers. Interactive nature of a blog allows visitors to post their comments on each post. It is a great way to get feedback from customers. Some blogs are having subscription option which facilitates the interested visitors to get notifications when a new content is posted on the blog. Many companies are having blog as a formal communication channel.

Impact on Tourism

Blogs are becoming a very important source of information for international vacationers. Many travellers these days conduct their holiday research less through official tourism boards and companies' Websites and more from Weblogs such as indiatravelzine. com, where members can post local information about what to visit and avoid. Customers have strong credibility towards the information and responses posted by other travellers. Moreover, it is very likely that when reading and sharing one's travel experience through Weblogs, this also creates the willingness to travel and visit the same destination to others as well.

Implications for Tourism Enterprises

It is evident that tourism enterprises must pay attention to online Weblogs in order to make use of the available e-resources to identify and cater the needs of their customers. Weblogs also help the marketer to conduct an easy and free online market research investigating the preferences and profile of tourists.

Examples

Numerous examples of general and/or specific blogs exist in the Indian tourism industry:

HolidayIQ: (www.holidayiq.com) it is India's largest travel and holiday information portal. It provides latest hotel reviews, photos, deals, flight search, blogs and forums for over 350 Indian tourism destinations.

Goablog: (www.goablog.org) this Weblog focuses on spreading the art, culture and traditions of Goa, Goa travel and tourism issues. It also tries to get the tourist location reports and reviews timely. It publishes the articles and photographs of non-commercial type by the tourists with their name and other details.

These Websites do not sell holiday packages or tickets but tell users more about holiday destinations.

CLAY (Club Mahindra and You) - It is a platform created by Club Mahindra Holidays for the travelers and adventurers to share their experiences, adventures and just about anything in the area of travel, leisure and holiday. Regular contributors are given with a **digital badge** that they can display in their own blog, email signature or desktop. (www.clubmahindrablog.com)

Club Mahindra Membership blog: It is another blog for Club Mahindra members to inform them about the Membership Updates, News articles and new memberships and get feedback from them. (http://clubmahindramembership.blogspot.com)
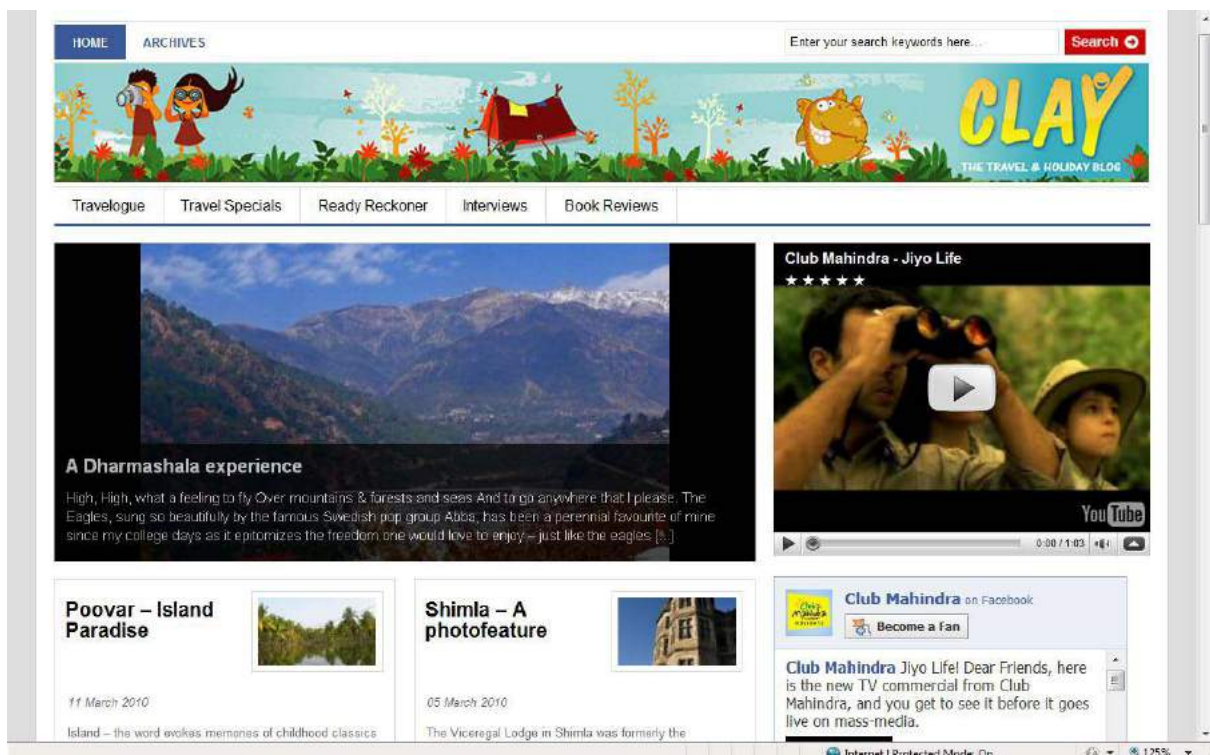
Illustration of a travel blog
Source:www.clubmahindrablog.com

Cleartrip: Specialized in air fares and hotel booking, the Website Cleartrip is a clean, easy to navigate resource for Indian travelers. This site has its own blog which provides travel related information for the users. (http://blog.cleartrip.com/)

RSS (Really Simple Syndication)

RSS is a family of Web feed formats used to publish frequently updated works such as blog entries, news headlines, audio, and video in a standardized format. An RSS feed includes full or summarized text, plus metadata such as publishing dates and authorship. Web feeds benefit publishers by letting them syndicate content automatically. They benefit readers who want to subscribe to timely updates from favored Websites or to aggregate feeds from many sites into one place. RSS feeds can be read using software called an "RSS reader", or "aggregator". The RSS reader checks the user's subscribed feeds regularly for new work, downloads any updates that it finds, and provides a user interface to monitor and read the feeds.

Business Benefits of using RSS

RSS allows the users to easily stay informed by retrieving the latest content from the sites in which they are interested in. Internet user can save time by not needing to visit each site individually. It also ensures privacy of the user, by not needing to join each site's email newsletter. Many RSS readers allow users to forward items in RSS feeds to their friends, family and co-workers. So the corporates can use the RSS feed as tool to push their information to their customers easily.

Some popular feed readers include Ampheta desk (Windows, Linux, Mac), FeedReader (Windows) and News Gator (Windows - integrates with Outlook). My Yahoo, Bloglines, and Google Reader are other popular Web-based feed readers.

Impact on Tourism

RSS feeders save information search time for Internet users. It provides up-to-date information about various tour packages, new destinations, discounts, festivals and other tourism related information for the users whenever a new content is uploaded in a tourism Website or a blog.

Implications for Tourism Enterprises

Tourism enterprises need to incorporate RSS feeds in their Websites in order to communicate their customers efficiently by sending newsletters, new post's links, etc. unlike the spam and e-mail newsletters, information delivered through RSS has more likelihood to get the reader's attention. RSS feeds help get inbound links from other Websites; so tourism Websites can use them as an excellent way to do search engine optimization.

Examples

Many travel agencies such as **Travel india mart** (www.travelmartindia.com), **ixigo.com** (www.ixigo.com), **Yatra** (www.yatra.com) and **Clear trip** offer customers the opportunity to automatically receive new promotions via RSS as soon as they are posted on the site.
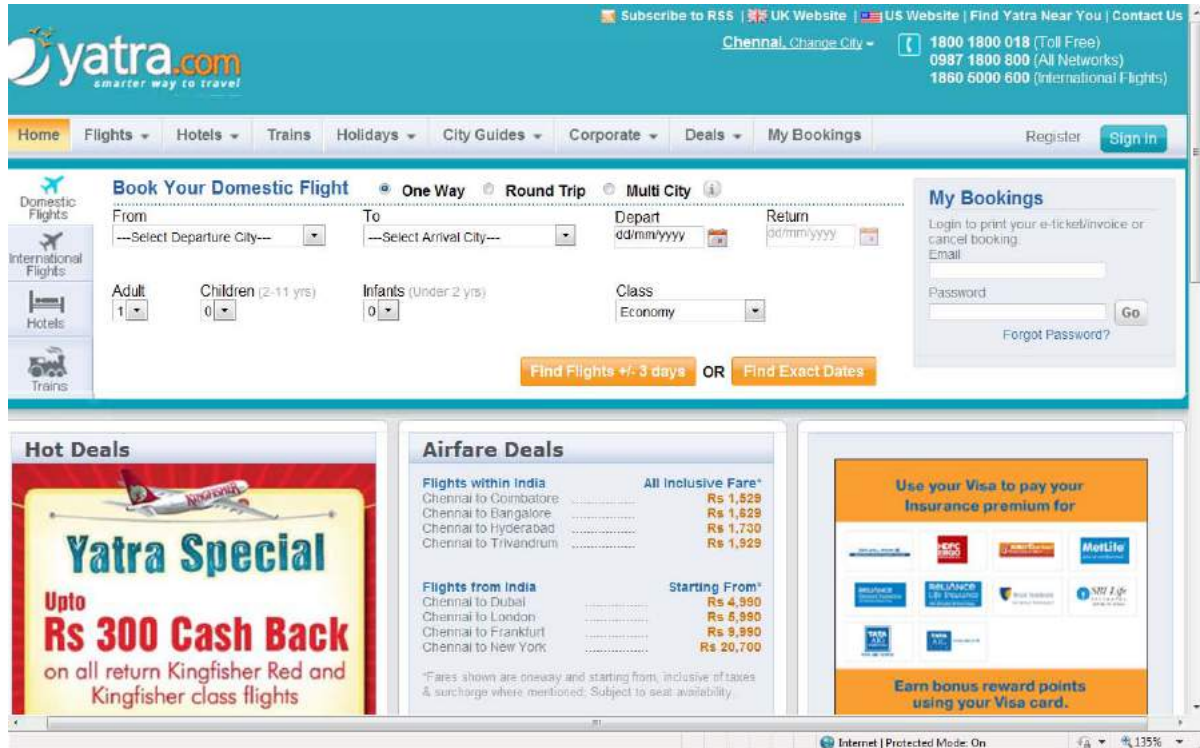
Illustration depicting RSS feed in a travel agent's website
Source: www.yatra.com

Adventure guiding and tourism (www.adventurerspulse.com) an adventure tourism Website offers the information update about adventure tours within India to its subscribers via its RSS feed.

Travel Tales (www.traveltales.in) it is a blog on Indian Travel industry which gives Information about travel destinations and best hotels with a special focus on religious places, temples and festivals of India. It provides update on best travel offers and reviews on travel Websites and events using RSS.

Social Networking Service

Social network service focuses on building of social networks or social relations among people. A social network service essentially consists of a representation of each user

(often a profile), his/her social links, and a variety of additional services. It provides means for users to interact over the Internet, such as e-mail and instant messaging. It allows users share ideas, activities, events, and interests within their individual networks. Facebook, Google+ and LinkedIn are the most popular networking sites worldwide.

Business Benefits of Social Networking Sites

Social networking sites can help to increase the circle of people that a firm can influence to buy its services. In a social networking service company personnel can build personal relationship with potential customers and help them out with their doubts and queries and that in turn builds a relationship of trust.

Impact on Tourism

Social networking websites have a tremendous impact on tourism planning and development. Tourists want to use the Internet in order to organize a group trip with their friends. Such tourists' demands and preferences have given rise to new e-business models for distributing and producing tourism packages.

Implications for Tourism Enterprises

Tourism enterprises should implement new kind of e-business models with social networking tools, so that their users can collaborate with others and organize simultaneously a trip with their friends. Marketer should develop new types of travel cyber intermediaries that provide Internet users to interact /share links with their friends, provide feedback, achieve a consensus and finally, enable them make the group booking.

Examples

Makemytrip / Facebook home page: Travel companies such as Makemytrip.com have creating dedicated Facebook Homepages featuring travelers comments and featured offers, and allowing other Facebook users to sign up as 'Friends'.

(http://www.facebook.com/pages/MakeMyTrip)

OkTataByebye.com: (www.oktatabyebye.com) this Make My Trip's travel based social networking site allows travellers to find and share personal travel experiences, honest hotel reviews on Indian destinations.
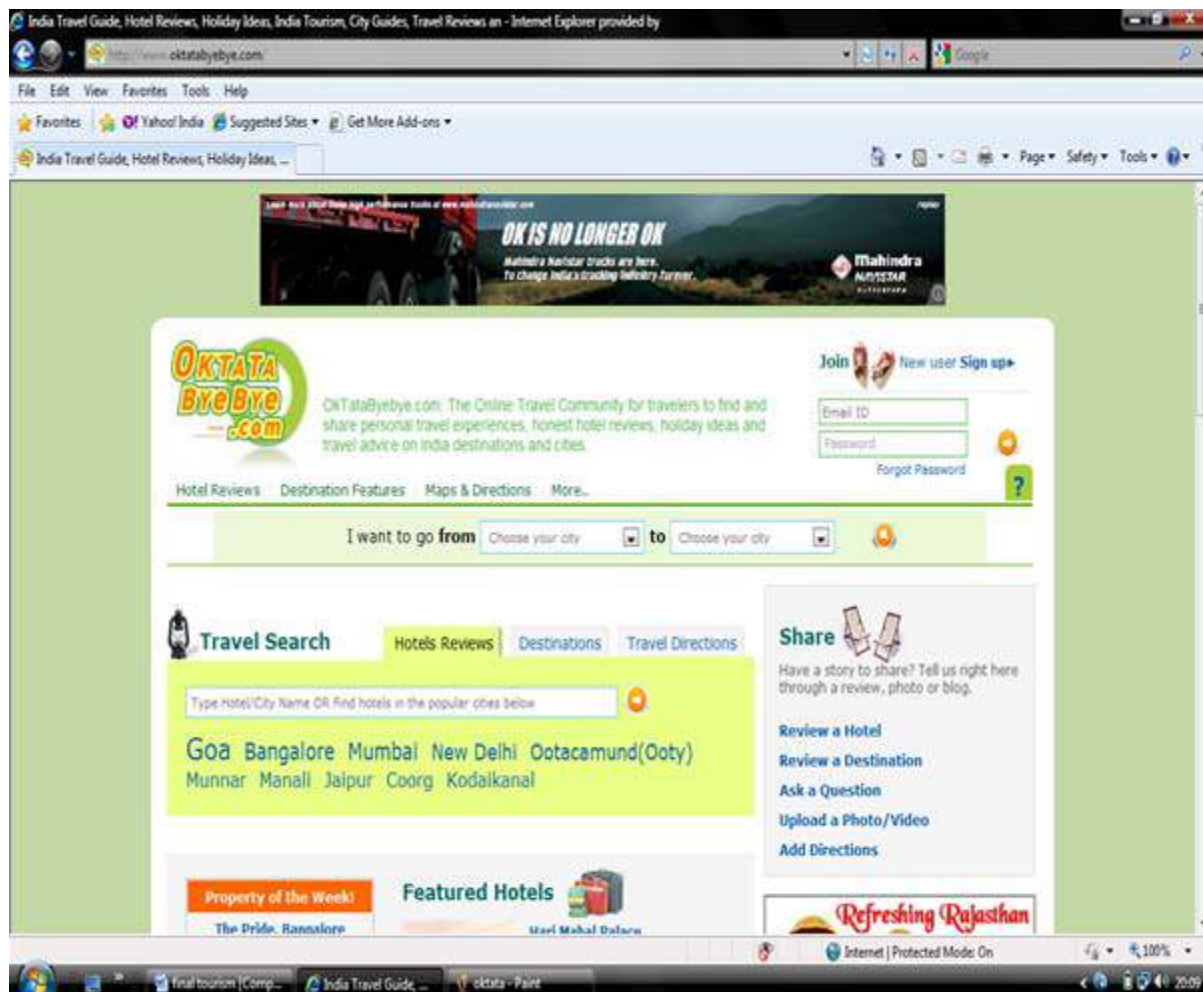
Illustration of a travel based social networking site
Source: www.oktatabyebye.com

Essel world & water kingdom: (http://www.esselworld.com/) Essel World, India's largest amusement park owned by Pan India Paryatan Ltd (PIPL) has created its Facebook community on December 2008. Now it has more than 977 fans following it.

Indiamike.com: (www.indiamike.com) India travel discussion forum for advice, sharing photos, chatting, and tips for those traveling to or within India.

The India tree: (www.theindiatree.com) this is the forum for visitors, expats and residents. It is a friendly place to hang out, meet people, ask questions and give suggestions about Indian tourist places.

Himalaya trekkers (Himalayan trekking club in India) in yahoo groups: This group would help as an advisory function for all those who want to go on expeditions/treks

to Himalayas. The trekkers may leave their experiences in this forum for the benefit of others.

Traverik.com: This is a startup company that uses the trend of crowd sourcing (drawing wisdom from the crowds and not the experts) to build a travel itinerary for you based on the intelligence that other travellers have liked. It is crowd-sourcing a travel plan.
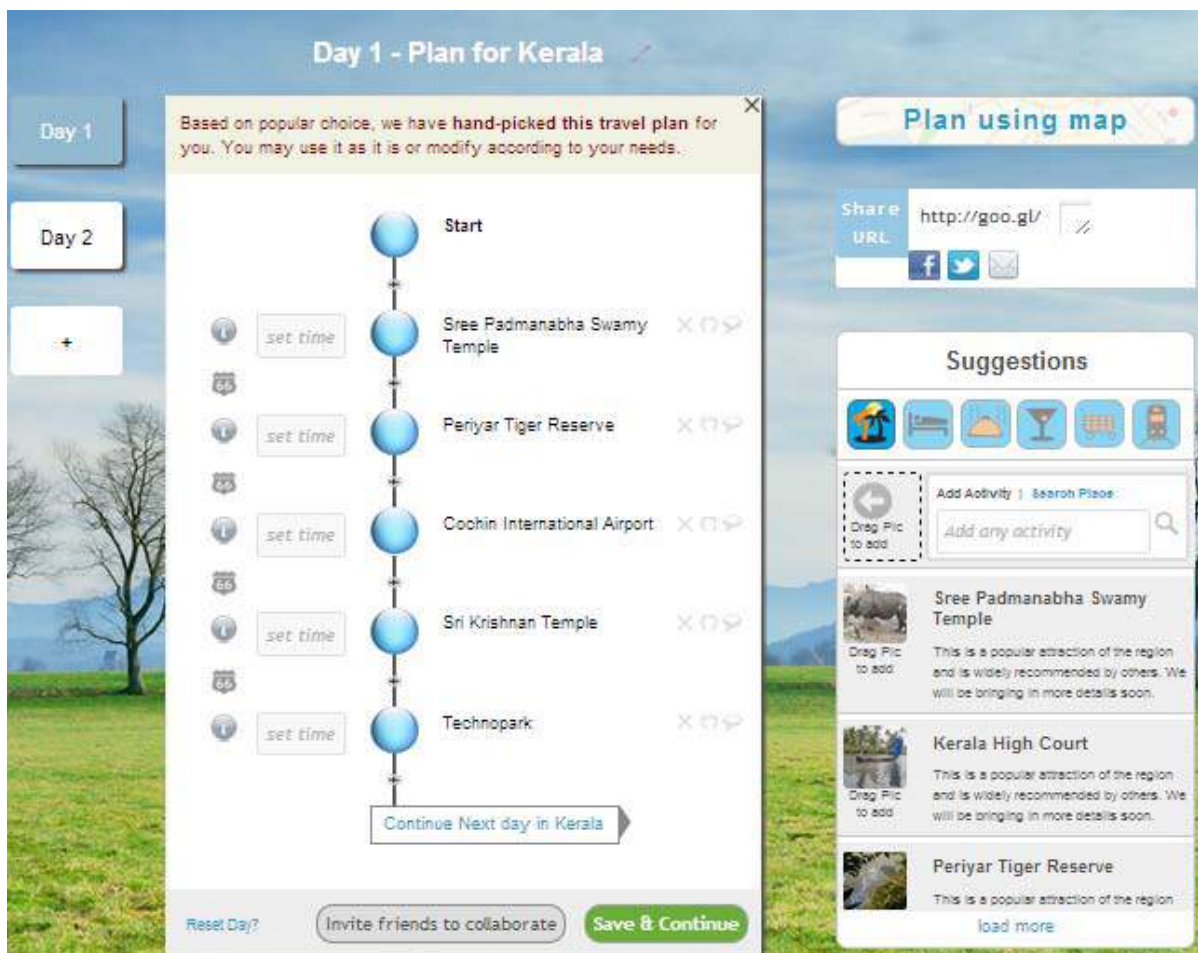
Illustration of a crowdsourced travel plan
Source: www.traverik.com

Podcast and Online Video

A podcast is a series of digital media files (either audio or video) that are released episodically and downloaded through Web syndication. A list of all the audio or video files with a given series is maintained centrally on the distributor's server as a Web feed, and the user employs a podcatcher (special client application software) that can access this Web feed, check it for updates, and download any new files in the series.

Impact on Tourism

Tourism experiences are intangible. Unlike products and goods one cannot feel and try a travel experience before he/she buys or travels to a destination. As a result, the purchase risk is high and it is difficult to persuade a user for the qualities of a tourism service. Podcasting helps users to take better decisions by viewing the audio and video files of hotels and destinations.

Implications for Tourism Enterprises

Tourism operators should provide platform for the travelers to post and share their own travel experiences in the form of video and audio files. Podcasting can be used as marketing as well as communication tools.

Examples

Mapping Mumbai

This is a popular four part series podcast presented by the Tate Modern, London's national museum for modern and contemporary art which shows Mumbai as an exciting, vibrant, diverse, contradictory metropolis and home to many artists. (www.tate.org.uk)

Incredible India Video Campaign

The "Incredible India" campaign is Ministry of Tourism's primary vehicle for communicating the wonders of India to the entire world. It was extremely successful in reaching the right target audience and branding India as an exciting travel destination.

India's Channel on YouTube

YouTube (www.youtube.com) is set to become the most popular online video Website which allows users to create their own travel profiles, post videos of their trips, and comment on each other's posts. The Indian tourism ministry has launched India's channel on YouTube on December 2005 to convey more about India to the world.
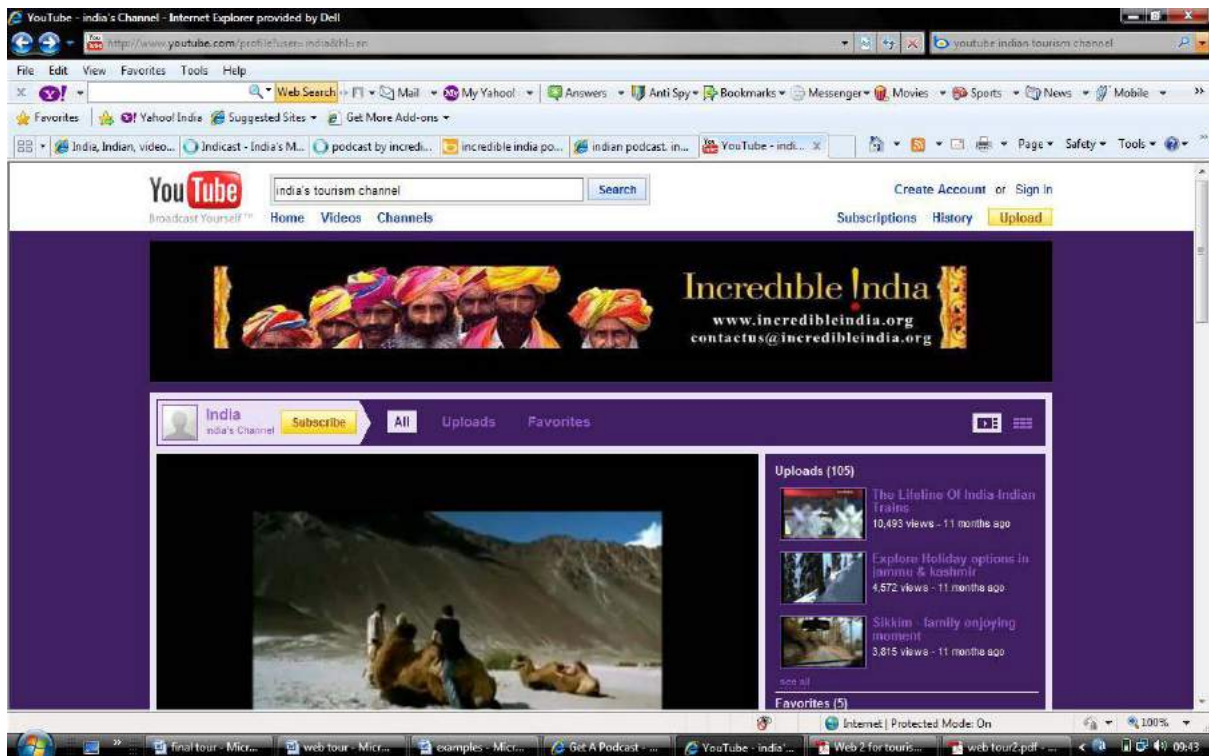
Illustration depicting India's channel on YouTube
Source: www.youtube.com

TTDC Launched 'Virtual Tour' of Tourist Spots in Tamil Nadu

The Tamil Nadu Tourism Development Corporation (TTDC) recently launched (Oct 2009) the 'virtual tour', which allows visitors to walk through world famous temples, UNESCO monuments and other tourist spots in Tamil Nadu without visiting the state. It is an attempt to enable the people to have a real kind of experience about various tourist spots of Tamil Nadu.

Oberoi hotels and resorts have been lauded for the rich use of video in the gallery section of their corporate Website (http://www.oberoihotels.com/gallery.asp), demonstrating the experience and facilities of the hotel.

Tagging

Tagging is a new way of categorizing information online and common in user-generated content sites. Users tag a piece of content (e.g. an audio, a picture, a word) with a meaning (a word or phrase) and then this information is categorized in categories based on this meaning. Tagging can be used for saving and sorting ones content as well as sharing with others.

Impact on Tourism

It allows the travelers to tag their favorite Websites in some tagging Websites (Ex: digg.com) with some meaning. For example a traveler can tag a website/blog as 'best travel agent website' or 'blog for honest hotel review' and can share it with others through social bookmarking sites. Based on these tags they are sorted in different categories, while others can use these users' generated categories for identifying appropriate Websites. By this way, more and more users are using tags as collaborative tools for identifying and sorting content.

Implications for Tourism Enterprises

Websites should offer the capability for users to sort, share and categorize content based on tagging. Tourism Websites should optimize their tags and Meta tags of their Website in order to get higher ranking in the search engine results.

Examples

Online travel guides like **journey mart** (www.Journeymart.com), are providing affiliate links to social bookmarking sites like deli.cious.com, digg.com and stumbleupon. com so that their users can tag, sort their Website through this technology and share with others.
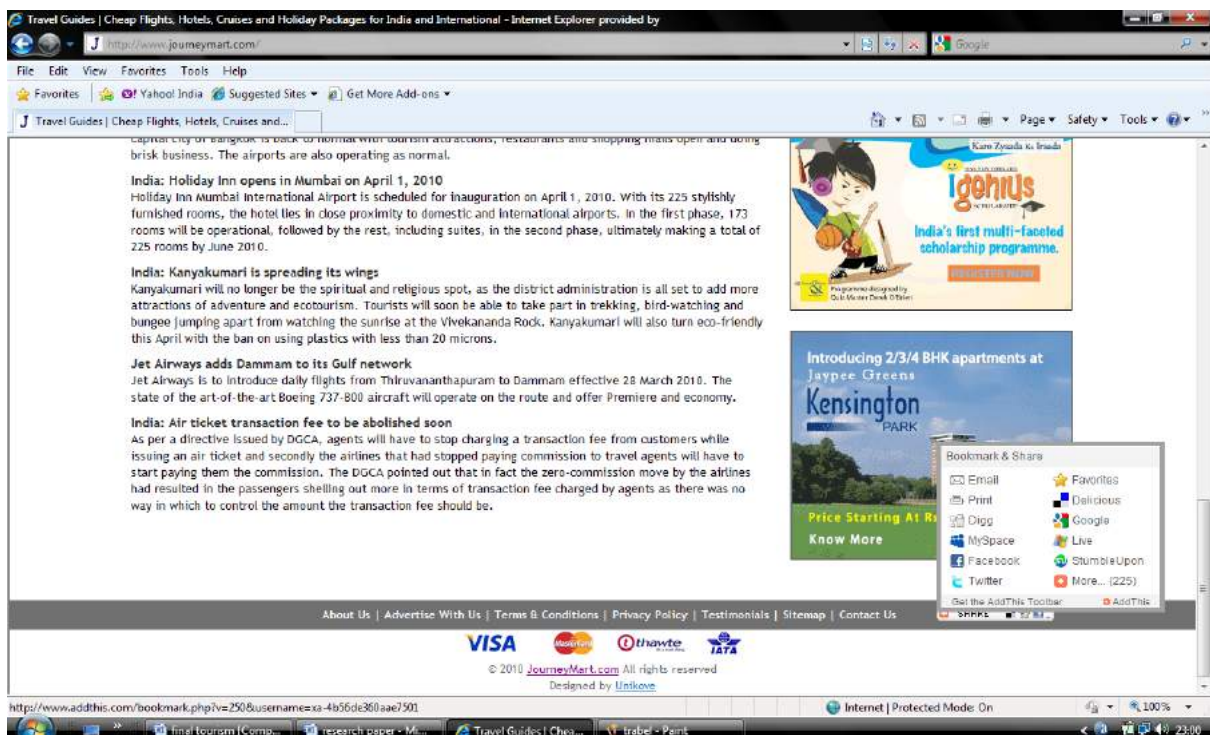
Illustration depicting social bookmarking options in an online travel guide

Source: www.journeymart.com

Mash-Ups

A mash-up is a Webpage or application that uses or combines data or functionality from two or many more external sources to create a new service.

Impact on Tourism

Tourists expect and demand to combine and cross check information from different sources so that they can better and easier make a holistic decision. Tourists easily get confused from different descriptions found in different Websites.

On the contrary, mash-up Websites enable user to see where exactly a hotel/ destination is located with the route map and directions. Many mash ups are enriching their services with Google maps and other related geographical information.

Implications for Tourism Enterprises

By having mash-up programmes, tourism enterprises can help the tourist to find their locations easily which will increase the number of tourist visiting that place.

Google Maps Mash-ups in India

Map My Temple (http://www.mapmytemple.com/) has a user submitted Google Map of temples in India. Users can submit photographs and details of temples and plot their location on a Google map. Clicking on a tab of an individual temple opens an information window with a short description of the temple and a photograph.

Eatables (http://eatables.in/isearch.jsp)is a directory of hotels and restaurants in Chennai and Hyderabad. A map of each city is provided with individual locations tagged on the map.

Each tag contains a brief description of the restaurant and a link to a forum discussion of that venue. Users can submit restaurants themselves by clicking on a location on a Google Map and completing a simple form.
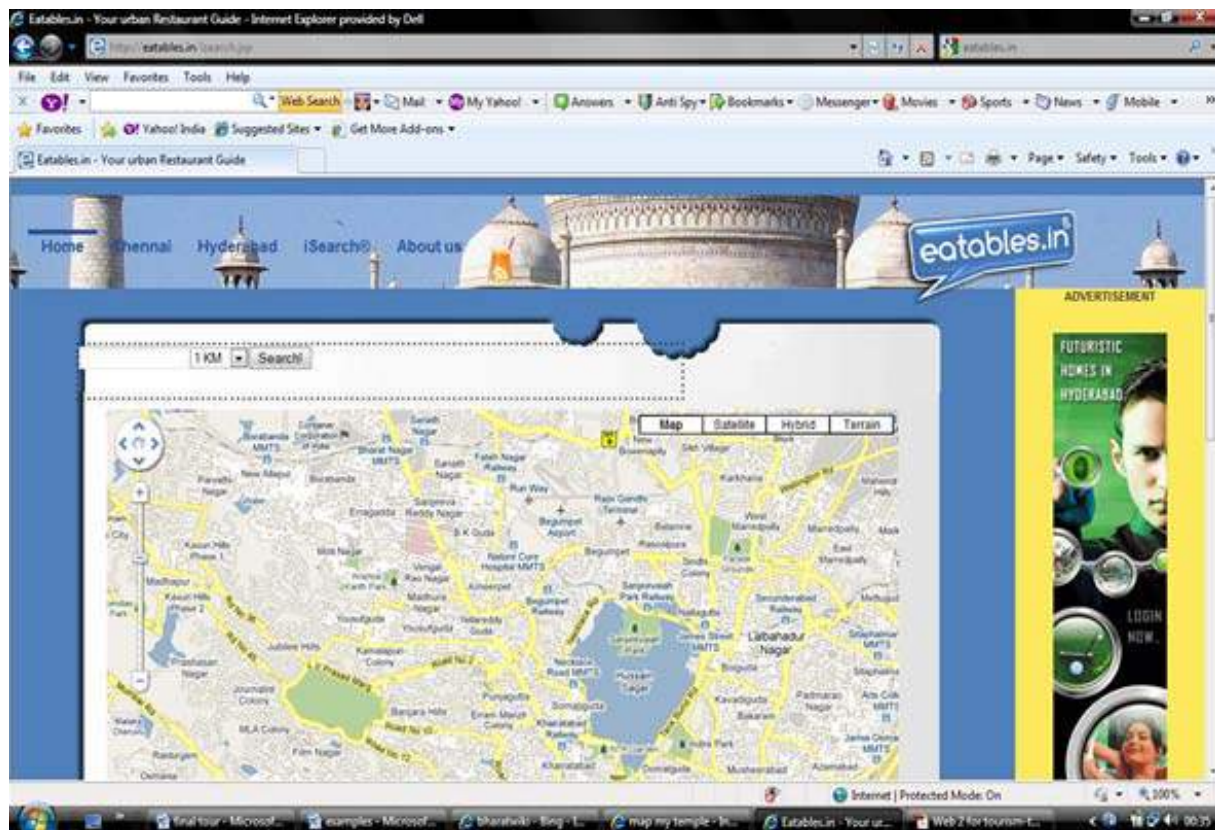
Illustration of a Mash-up application in an online hotel directory

Source: http://eatables.in/isearch.jsp

Mapmyindia

Mapmyindia (www.mapmyindia.com/press) is a leading map and navigation services provider, has released revolutionary new GPS and map solutions that will make travel in India safer and secure. iNav, a GPS-based application for mobile phones, transmits exact location of a person to another person anywhere in India, any time of the day or night. It also released a very simple SMS service that allows anyone with any kind of mobile phone to access driving directions and local business information anywhere across India, simply by sending an SMS. This application has developed with the partnership of Wayfinder systems.

Wikis

A wiki is a type of Website that allows the visitors themselves to easily add, remove, edit and change available content. This ease of interaction and operation makes a wiki an effective tool for collaborative authoring. In short, the visitor can contribute to build this Website up.

Impact on Tourism

In tourism wikitravel.org represents the effort of Internet users to collaboratively create and continuously update an online global travel guide.

Example

Bharatwiki (www.bharatwiki.com) is a wiki about India which currently features 2353 articles. This comprehensive wiki portal is dedicated to Indian Festivals in 2008, Indian Arts & Culture, Economy of India, Government of India, Fairs and festivals of India and Military of India.
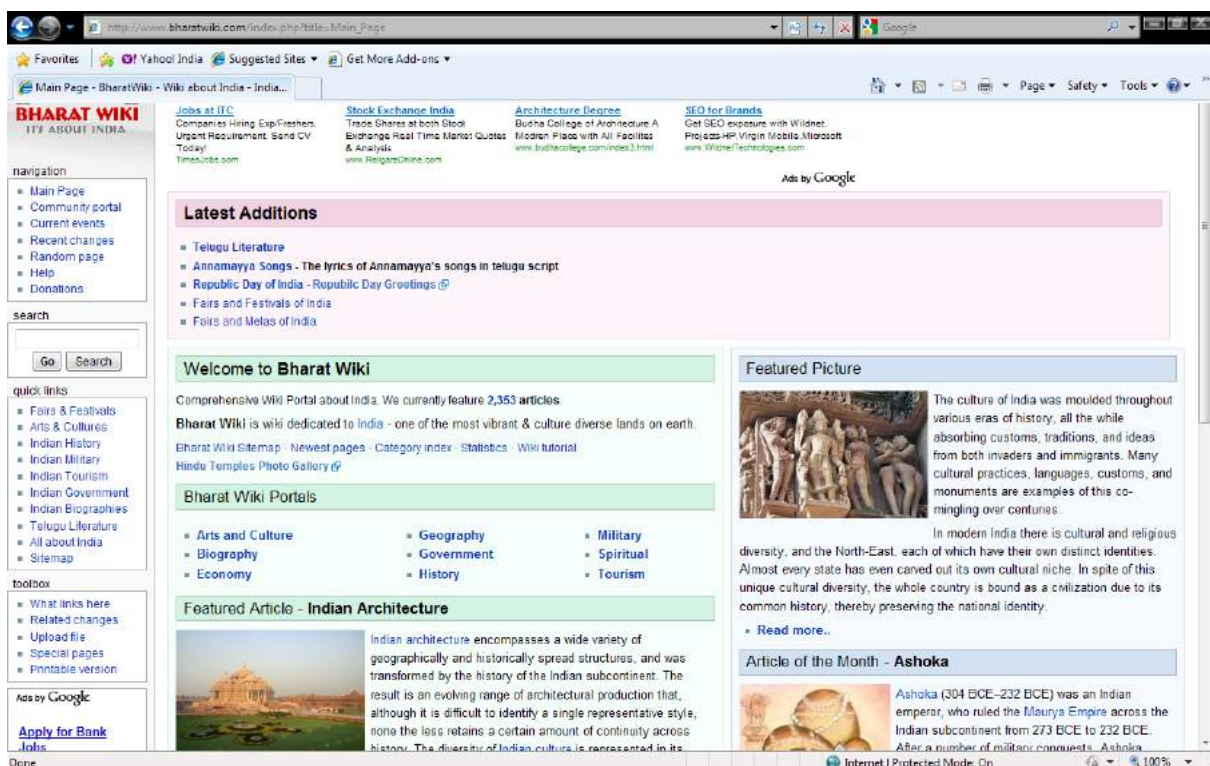
Illustration of a wiki Website
Source: www.bharatwiki.com

Challenges for Conventional Business Models

Technology has always had large-scale impact on the Travel and Tourism industry. Characterised by the global nature of the industry with a multitude of scattered suppliers and customers, intermediaries (such as the travel agents) played a crucial role in product distribution and marketing. The advent of the Internet triggered the trend of disintermediation paving the way for the travellers/tourists to deal directly with the service providers such as the airlines and hotels. However, the intermediaries armed with

a vast array of product assortments and value-additions made a comeback through re-intermediation. This trend was characterized by the proliferation of online travel agents (OTAs) such as Travelocity.com and MakeMyTrip.com. A certain group of service providers reacted through counter-mediation in which they came together forming a single entity (for example, Opodo.com which is a pan-European online travel company founded in 2001 by 9 airlines). These trends sum up the challenges for businesses in Web 1.0. Later on, as the Web moved beyond technology and commerce to a more social platform, Web 2.0 trends such as crowdsourcing, user-generated content and so on took centre stage. Web 2.0 tools may be categorized as tools to publish (e.g. blogs), network (e.g. social networking websites) and share (e.g. video/photo sharing websites). These developments challenge the businesses to be more agile in anticipating and responding to customer requirements, to involve customers in the co-creation of value/utility which combines the elements of customization and crowd sourcing and to be more mindful of the online reputation of their brands.

At the macro-level, there has been a shift from *information asymmetry to information democracy.* In *information asymmetry,* information was scarce, customers were ill-informed, exchanges were monologues and marketing was "command-and-control". But in *information democracy, i*nformation is ubiquitous, customers are well-informed, exchanges are conversations and marketing is "connect-and-collaborate".

Conclusion

Web 2.0 is an outcome of community efforts by all the internet users to develop a new trend where business takes new shape to benefit its customers. Many tourism enterprises have already started experimenting with web 2.0, which provides incredible opportunities to the marketers who are willing to implement these tools in their business. Due to this innovation, now the marketing communication is on the hands of the customers; marketer has no control over it. At the same time, Web 2.0 applications give numerous ways to engage the customers by involving them in the service process and making them as endorsers by providing platform to interact and give feedback. Thus, Web 2.0, which is shaping the future of e-Tourism, is an excellent way to build customer loyalty, improve brand equity and maximize on customer interactions in terms of online engagement and experience.

Self Assessment Questions

1. Explain the payment gateway process for making and accepting online payments.
2. What are the steps involved in the online payment process?
3. Discuss the benefits and risk associated with online payments.

4. Write a short note on the Billing and Settlement Plan (BSP) of IATA.

5. Explain the working of the following online security mechanisms:

   a. Encryption   b. Firewall

6. Explain the following security threats to e-commerce:

   a. Phishing   b. Vishing   c. Maleware

7. What is the purpose of e-commerce trust marks?

8. Describe the types of e-commerce assurance seals? Give examples.

9. Explain how the trend of sharing User-generated content (such as hotel reviews) has impacted tourism businesses?

10. What are the ways in which a hotel may leverage the user-generated content on a review-sharing platform such as TripAdvisor?

11. Describe the impact of the following Web 2.0 applications on the tourism industry:

    a. Blogs

    b. RSS (Really Simple Syndication)

    c. Social Networking

    d. Podcasts,

12. Discuss the implications of the following Web 2.0 applications for tourism enterprises:

    a. Online Video

    b. Tagging

    c. Mash-ups

    d. Wikis

CASE STUDY

Securing Tourists with Online Payment in Sri Lanka

[*Source:* http://www.cbi.eu/success-stories/Securing-tourists-with-online-payment-in-Sri-Lanka/ 136082&type=module]

The European online travel business is booming. Offering an online payment option to your customers ensures you are not left out of this dynamic market! This case study shows

how Acme Travels – an incoming tour operator in Sri Lanka – designed and implemented its online payment module for its customers.

Shan Samsudeen started Acme Travels in 1993, mainly serving the business-to-business segment. He had an ambition to serve the European business-to-consumer market. And for a reason, individual travellers are increasingly surpassing travel intermediaries to book their holidays online.

Safety and Convenience

Using the Internet as the main marketing and sales platform, it was a challenge to find a safe and convenient online payment module. After six long months of perseverance, Shan found the right module that is convenient for his customers to pay and for Acme Travels to collect the payment.

Boosting Sales

Today, Shan sees faster booking confirmation and payment. To his delight, sales from the business-to-customers segment reached 50% of total sales, from less than 25% before the implementation of online payment option.

What were Shan's key Learning Points?

Learning Point 1: Beware of Integral Risk

Offering an online payment option means you are bearing some financial risks in case of fault payment and credit card scams. Shan has learnt that there is widespread online scam. Interested customers can even turn out to be a scam in disguise!

Learning Point 2: Avoid High Value, Low Margin

The integral risk of credit and online payment makes products that have high value but low margin unattractive, such as ticketing. Choose carefully which travel products you should allow your customers to pay online.

Learning Point 3: Safety First!

Due to the risk of payment default, it was important to be able to identify customers. Doing so, Shan asked for a scanned copy of their passports, or personal information, such as

passport number, full name and telephone number. When in doubt, he learnt it was a good idea to call the customer directly.

Learning Point 4: Written Payment and Cancellation Policy

Shan makes sure that his customers see and read the payment and cancellation policy. Clients are provided with an invoice for each payment made via the online system where all cancellation & details are mentioned. This prevents any misunderstanding or error. In case of dispute, banks and lawyers take these policies you communicate with customers into account to decide which party will bear the incurred transaction.

Learning Point 5: Payment Gateways for Key Currencies

Allowing customers to pay in their own currencies can be an attractive selling point. Acme Travels has two payment gateways for key currencies, namely USD and Euro.

How did Shan Introduce the Online Payment Module?

Looking back, Shan saw a challenging start when he wanted to introduce the online payment module at Acme Travels. Let's see together how his journey was like!

1. Putting the Basics Together

To get his online payment option started, Shan needed to make an agreement with the respective bank. He was required to put aside a large financial sum of money as guarantee. He would be responsible for any fault payment of his customers.Following the bank arrangement, a web developer then created an online payment platform as an extension of Acme Travels' website, connecting to the respective bank's online payment service.

2. Secure Virtual Payment

Shan wanted his payment module to be secure for both the company and customers. Therefore, he decided to create a personalised payment environment. When a customer books a tour, he will receive a password sent to his e-mail address. The customer can use it to log in on Acme Travels' User Login Panel.

Optimal Payment Method

1. In terms of payment, Shan asks his customers to pay in three installments. This allows him to manage his cash flow and minimise the bank commission, charged for 3% of every transaction made online. The scheme is as follows:

2. The first payment amounts to a maximum of around USD300 via Acme Travels' secure online payment module. Shan uses this as a deposit to cover costs incurred in preparing for a package tour.

3. In the second instalment, the customer pays 70% of the price within 40 days before arrival to Sri Lanka.

To help avoid a large expense paid to for bank commission, Shan asks his customers to pay the remaining 30% of the package tour in cash or traveller cheque upon arrival.

Shan makes sure the payment details are easily accessible on his website.

Nearing the Sustainable Future

With full satisfaction, Acme Travels can now offer a convenient online payment module to its distant customers. Of course, a payment module alone is not the sole factor to success. Aiming to thrive on serving the business-to-customer segment, Shan tries to provide excellent travel service, which "leaves no chance for customers to complain"!

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UNIT - V

Unit Structure:

Lesson 5.1 - Introduction to Amadeus

Lesson 5.2 - Hands on Amadeus Software

Lesson 5.1 - Introduction to Amadeus

Learning Objectives

➢ The objectives of this lesson are:

➢ To help you understand the history of Amadeus

To familiarize you with the Amadeus solutions for travel intermediaries

➢ After going through this lesson, you will be able to:

➢ Explain the product portfolio of Amadeus for B2B tourism businesses

Explain the product portfolio of Amadeus for B2C tourism businesses

Introduction

Amadeus is a leading transaction processor for the global travel and tourism industry. It provides transaction processing power and technology solutions to both travel providers (including full service carriers and low-cost airlines, hotels, rail operators, cruise and ferry operators, car rental companies, travel insurance companies and tour operators) and travel agencies (both online and offline).

On the one hand, Amadeus acts as a worldwide network connecting travel providers and travel agencies through a highly effective processing platform for the distribution of travel products and services. On the other hand, it also provides a comprehensive portfolio

of IT solutions which automate certain mission-critical business processes, such as reservations, inventory management and operations for travel providers.

History of Amadeus

Air France, Iberia, Lufthansa and SAS agree to create a new global distribution system (GDS). As a result, Amadeus was born on 21 October 1987. Two years later, seven airlines become system users and Thai Airways International becomes the first Asian partner. The Amadeus Network (Amanet) went live and it is used by travel agents to connect to the Amadeus system. In 1992, the first Amadeus Passenger Name Record (PNR) is created. This facilitated the System user airline sales offices to migrate to Amadeus for all reservation requirements. The company also diversified to launch Amadeus Cars and Amadeus Hotels. Soon, Amadeus was voted the top Computer Reservation System (CRS) in Europe. In 1996, www.amadeus.netwas launched, offering online airline availability and destination information. By 2003, Amadeus handled nearly 2,500 transactions a second and there were over 23 million active PNRs in its central system. In 2005, Amadeus was contracted to build the Star Alliance's common IT platform. On the 20th anniversary, Amadeus managed up to 2 million travel reservations daily and processed more than half a billion travel bookings annually. In 2009, Amadeus introduced the Amadeus Extreme Search concept in online search. It also rolled out the Amadeus Altéa Departure Control System for which 162 airlines contracted to use Amadeus Altéa for reservation, inventory or departure control. Amadeus also started working on developing a mobile boarding pass.

➢ As a transaction processor in travel, Amadeus serves in more than 195 countries and processed 948 million key billed travel transactions in 2011. Through the Amadeus system, the Travel agents have access:

➢ 693 airlines (over 440 bookable) – including over 60 low cost carriers

➢ 116 Insurance companies

➢ 50+ cruise and ferry lines

➢ 206 tour operators

➢ 87,000+ hotel properties

➢ 30 car rental companies

➢ 102 Railway Operators

Over 90,000 travel agency subscribers access the system. Additionally, over 60,000 airline sales outlets and 4,500 corporate customers worldwide are also connected to the system. These figures highlight the magnitude of the task of and the capability required for a transaction processor and IT solution provider for the global travel and tourism industry

Product Portfolio

Amadeus has a wide product portfolio catering to different user categories as described below:

a) *Airlines* – For the airlines, Amadeus provides IT Solutions to address airlines' key operational requirements in the areas of sales, reservation & ticketing, inventory management, departure control and e-commerce. Amadeus provides innovative GDS solutions to maximise the value of travel agency distribution. These solutions enable business growth, open new revenue streams, increase efficiencies and make informed business decisions. Amadeus provides solutions to independent travellers to plan or manage their trip by providing flight schedules, best fares and other trip tools.

b) *Travel agencies* – For travel agencies, Amadeus provides Extreme Search which is a unique shopping solution for online travel agencies that revolutionizes the way travellers search for air travel online. Amadeus Selling Platform is the world's most-used retailing application for travel professionals. Amadeus Cars Plus eRetail HTML enables existing Amadeus eRetail customers to diversify their offering and grow revenues through car bookings. Amadeus is the number one travel content aggregator and gives the travel agencies access to the low cost carriers needed for their customers. Amadeus m-Power is an all-in-one mobile solution that combines itinerary management, search, book and pay functionalities for flights, in-trip services, and post-trip sharing. m-Power enables travel agencies to accompany the traveller at every stage of the trip through the traveller's mobile phone.

c) *Corporations* –For corporations, Amadeus offers instant access to unrivalled global travel content. The search tools are designed to help source, manage and book travel while complying with a corporation's travel policy.From the best air fares and preferred hotel content to approved ground transport or integrated third party content, Amadeus technology enables meeting corporate travel needs and reducing costs at the same time. It also provides integration of airlines' ancillary services as part of the offer. With CheckMyTrip tool, customers are provided with a content-rich, easy-to-use itinerary service.

d) *Car rental* – Amadeus car solutions offer seamless content in the form of Real time availability including estimated total, Location list, location search, geocoding, shuttle information, Car rate feature display and Car policy display. The Features and Functionality include Booking (book, amend, display, cancel), e-Voucher, Delivery & Collection, Prepayment option, Modification & cancellation fees, Cross-selling & up-selling, Travel policies preferences and PNR integration

e) *Hotels*–Amadeus Hotel Distribution products provide a portfolio of booking tools, visibility and sales opportunities in the global GDS arena. It has both standard and add-on options. Using them, a user such as a travel intermediary or a Hotel can connect to a powerful GDS booking engine, reach a world of hotel bookers, display properties to a captive audience, sell with full merchandising options and manage the pricing strategies and customer relationships. Some of the popular products are:

> **Amadeus LinkHotel** which provides hotel distribution and marketing services, connecting independent hotel properties and small-medium sized chains to the multi-GDS and online travel community. The services extend from straight-forward GDS connectivity to full-service reservation applications.

> Amadeus Hotel Platform is a centralized above-property solution. It is built around one comprehensive database, and available as a 'Software as a Service model' (SaaS), it combines central reservation, property management and global distribution systems into one fully integrated platform.

a) Amadeus Hotel Platform - Revenue Management is a solution that works to fill hotels' rooms at the most profitable price according to learned demand patterns. It helps to make informed inventory and rate management decisions based on concrete business intelligence.

b) *Travel Insurance* - Amadeus Insurance is an automated solution that quickens and simplifies the booking process for any insurance and assistance policy. Incorporating all the necessary features to effectively sell a whole range of travel insurance policies locally and/or globally, Amadeus Insurance is rich in both content and functionality. It offers travel insurance companies a state-of-the-art sales platform to efficiently fulfil demand from a whole host of travel buyers. Amadeus travel insurance technology reaches multiple touch-points across the travel industry, such as Traditional travel agencies, Online travel agencies, Airline call centres, Airline websites, Ticketing offices and Tour operator platforms.

c) *Railways* - Amadeus Total Rail is the overall Amadeus offer to railway companies. It is a unique concept, enabling railways to manage their operations and to sell seats across multiples ales channels. At the same time, it gives travel sellers access to rail services and allows them to book rail and air services side by side within the same solution. The Global Rail Sales Platform brings rail travel to every passenger through Amadeus' extensive multi-channel sales network. Via the Amadeus Rail Sales Tracks tool, travel sellers and railway operators enhance the management of their sales and the complete passenger experience. The Rail Operations Engine combines the necessary elements for railway companies to lead and manage schedules and

inventory, fares and pricing in order to optimise revenues and deliver high level of customer service.

d) *Ground handlers* – Ground handlers at the airports manage a range of airline customers from the flight arrival until the next flight departure. They need efficient departure control services with as many as possible automated functions. Amadeus solutions for Ground handlers include:

➢ Departure Control - Customer Management for Ground Handlers – to boost productivity and optimises revenues whilst also enhancing the passenger experience through differentiated customer service.

Departure Control - Flight Management for Ground Handlers – to reduce costs by optimising fuel requirements and significantly increase productivity to ensure an efficient ramp and load control every time.

Amadeus Solutions for Travel Intermediaries

Traditionally, the travel industry depended on the intermediaries – to connect the sources of demand with the sources of supply. The travellers considered the intermediaries such as travel agents as a one-stop shop for all their requirements (such as travel and allied products and services). The service providers such as the airlines considered the intermediaries as their extended marketing arm in direct contact with the potential customers. Travel agents cater to both the Corporate/Business travel segment and the leisure travel segment.

Corporate/Business Travel Segment (B2B)

➢ In order to compete as a Business Travel Agency, the following competencies are important and are provided by Amadeus:

Superior air content offers corporate clients a wider choice of international airlines, routes and prices, plus more last seat availability to secure the cheapest fares. Low Cost Carrier (LCC) fares and special web fares to secure the cheapest possible deals are also integrated. Besides, access to a wide range of relevant non-air content, including hotels, cars, rail, and destination content – all with a focus on price and value is also provided.

➢ Integrated, multi-channel IT solutions help reduce and manage the clients' travel costs while also exploiting all available opportunities to emerge as a stronger agent; Amadeus offers quick and easy access to corporate travel content across multiple

channels, from corporate self booking tools and a range of online options to retail and call centre solutions. The automated tools and improved communication options deliver even greater efficiency.

Sophisticated, yet simple-to-use, tools enable delivery of outstanding service as a competitive advantage. The integrated IT solutions for Business Travel Agencies provide numerous tools to drive customer loyalty and to help prove value addition at every touch point. These tools enable an agent from convenient 'travel booker' to valued 'travel consultant' and thus move further up in the value chain.

Solutions from Amadeus for Business Travel agencies are shown in the following figure.
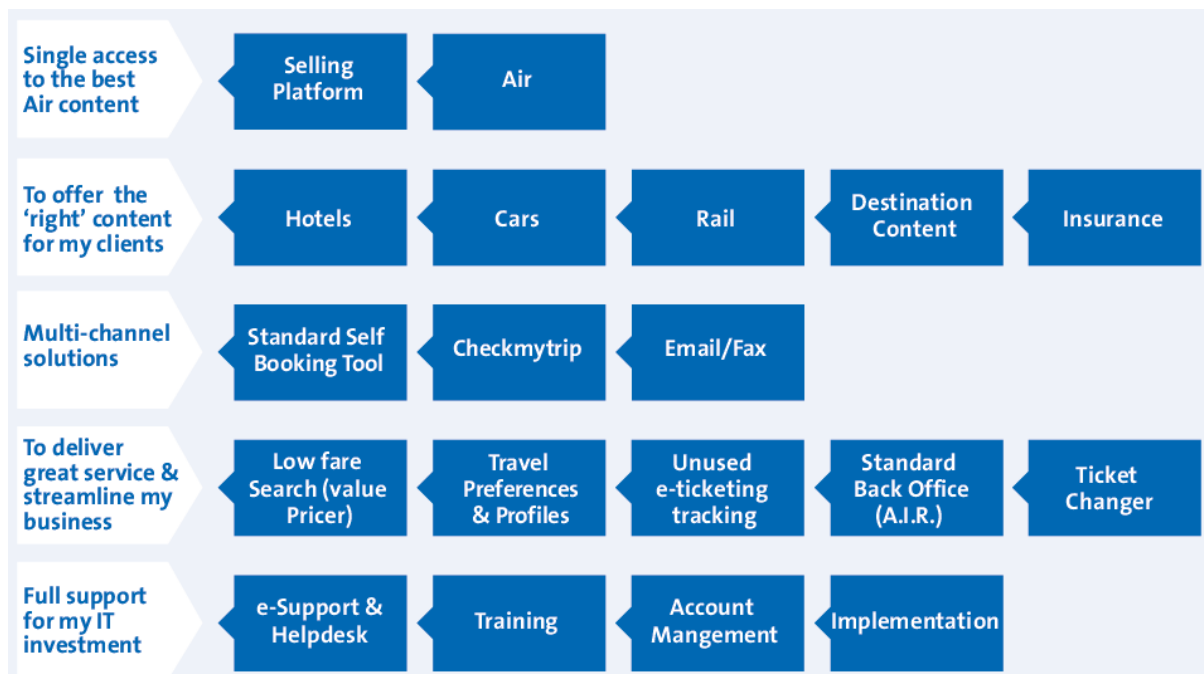
[*Source:* Amadeus Business Travel agent brochure]

Solutions from Amadeus for Business Travel agencies

Leisure Travel Segment (B2C)

➤ In order to compete as a Leisure Specialist Travel Agency, the following competencies are important and are provided by Amadeus:

➤ **Single access to all and best fares; A**ll pre- and post-sale activities via a single-screen interface are performed with the Amadeus Selling Platform. System capabilities such as unrivalled fare information, worldwide pricing capabilities and Master Pricer Standard, the industry leader in low-fare search products for both domestic and international itineraries enable instant display and comparison to sell fares.

- **Access to broad and specialised content;** the system provides a comprehensive choice of global air, tours, hotels, cars, cruise, insurance and destination content to the leisure specialist agent. Through such content, customers have instant access to hundreds of flights worldwide, plus a wide range of room rates – both negotiated and public – and unrivalled destination content in and around over 400 destinations worldwide.

- **Access to multi-channel tools to increase profitability;** With the tools provided, a leisure specialist can create a unique website – branded with the company logo, name, address and contact details. The agent can define its own business rules to control what information is shown to the customers, what services they can book, and when.

Solutions from Amadeus for Leisure specialists are shown in the following figure.
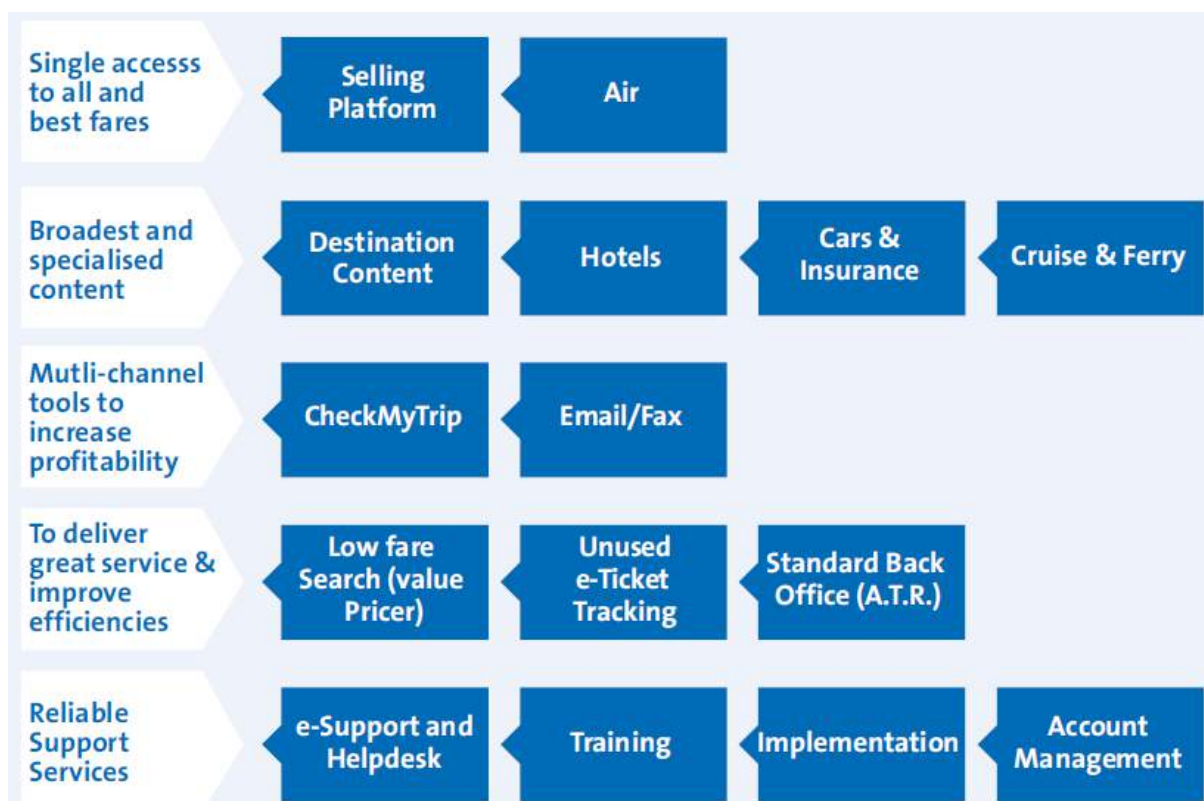
[*Source:* Amadeus Leisure Specialist brochure]

Solutions from Amadeus for Leisure specialists

Conclusion

This lesson presented Amadeus, a leading transaction processor for the global travel and tourism industry, highlighting the diverse solutions in its product portfolio and for

different clientale on tourism businesses. It provides transaction processing power and technology solutions to both travel providers (including full service carriers and low-cost airlines, hotels, rail operators, cruise and ferry operators, car rental companies, travel insurance companies and tour operators) and travel agencies (both online and offline).

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Learning Objectives:

➢   The objectives of this lesson are:

➢   To familiarize you with PNR handling on Amadeus system

To understand how to display fares, pricing an itinerary and issue tickets on Amadeus systems

➢   After going through this lesson, you will learn how to:

➢   Perform PNR handling such as retrieval, display, modify and cancel functions

➢   Perform Fare display and Itinerary pricing

Perform Issuance of Tickets

Introduction

Amadeus operates under a transaction-based business model and this allows travel companies to convert certain of their fixed IT and distribution costs into variable costs that fluctuate broadly inline with traveler volumes. The distribution and IT solutions from Amadeus facilitate all of the key stages of domestic and international travel and include technologies that cover itinerary planning, fare-searching, reservations, ticketing, airlines schedule and inventory control, passenger check-in and departure control and certain post-travel solutions. According to information posted on its website, the Amadeus system processed 948 million key billed travel transactions in 2011. This lesson attempts to give some hands-on guidance on using the Amadeus system for common actions such as PNR handling, itinerary pricing and ticket issuance.

PNR Handling – Retrieval, Display, Modify and Cancel Functions

A Passenger Name Record (PNR) contains details of a passenger's reservation and other information related to a passenger's trip. PNR can also contain information to assist airline personnel with passenger handling.

- The items of information that make up a PNR are called elements. A PNR can contain maximum of 999 elements. These elements can be mandatory or optional. Mandatory elements are:

- **Itinerary** - Contains flight segment, hotel, car, cruise, tour or ground transportation

- **Name** - Contains first name and surname of passengers

- **Contact** - Contains contacts of passengers or travel agency such as phone, email, fax

- **Ticketing Arrangement** - Determines the date when the ticket is going to be issued or applying ticketing time limit

Received From - Determines who has done the changes in PNR

- Some unique features of the Amadeus PNR are:

- All elements are numbered consecutively, making modifications easier.

- All names are displayed individually, even though two passengers may have the same family name.

All names are displayed in alphabetical order by family name, regardless of the way they were entered during PNR creation.

The following table describes item and character limits of the mandatory PNR elements:

Elements	Maximum Items	Maxim Characters
Name	9 99 for a group	59 51 for a group
Itinerary	99	N/A
Contact	127	90
Ticketing Arrangement	127	14 of free-flow text
Received From	1	69

Mandatory PNR elements

Selling an Air Segment

The Amadeus system provides you with two methods for selling an air segment. They are:

- **Short Sell** - This method requires you to first display availability or schedule before selling. Then you should sell the air segment using the corresponding line number.

To sell three seats, C class, from flight number LH 960, line1, enter: SS3C1 wherein

SS - Transaction code

3 - Number of seats

C - Class of service

1 - Line number

System Response

```
RP/THR1A0980/
1  LH 960 C 20JAN 4 FRAMUC HK3  0605 1  0635 0735   32S E 0 R
NON-SMOKING FLIGHT
SEE RTSVC
```

The following table explains different elements in the system response:

Element	Explanation
RP/THR1A0980	Responsible office
1	Element number
LH 960	Flight number
C	Class of service
20JAN	Departure date
4	Day of the week
FRAMUC	Origin and destination
HK3	Segment status and number of seats Status HK Holding Confirm LK Holding Confirmed (Direct Access) HL Have Listed LL Waitlist (Non Amadeus carrier) HN Holding Need HS Have Sold NN Need Segment SS Sold
0605	Check-in time (not for all airlines)
1	Departing terminal
0635	Departure time in local time of departure city

0735	Arrival time in local time of arrival city
32S	Equipment
E	Eligible for electronic ticketing
0	Stops en- route
R	Meal (Codes are provided in flight information)

> ➤ **Long Sell** - This method requires you to provide all the details of flight. When you know all the details for a specific flight, you can book a seat using a long sell entry. A long sell entry is also called a direct sell entry. The long sell entry does not refer to an availability or schedule display.

To make a long sell entry, enter: SSLH601H20FEBTHRFRANN3 wherein

SS - Transaction code

LH601 - Flight number

H - Class of service

20DEC - Departure date

THRFRA - Origin and destination

NN - Need segment (Optional)

3 - Number of seats

System Response

```
RP/THR1A0980/
1   LH 601 H 20FEB 7 THRFRA HK3   2400 2   0300 0545    340    0 M
NON-SMOKING FLIGHT
SEE RTSVC
```

Waitlist Segment

The Amadeus availability displays indicate the availability of different classes on a particular flight. If the class you want to sell has an indicator of **0** or **L**, this indicates that the class is not available, but the waitlist for the flight is open. You can use either the short sell or long sell entry to request a waitlisted flight. The action code **PE** is used to identify that you wish to request a waitlist.

Open Segment

When a passenger does not know the exact time or date of travel, you can enter an open segment in the itinerary. Open segments maintain segment continuity, and can be used for pricing and ticketing. An Amadeus PNR cannot be completely composed of open segments. If the first segment in the PNR is an open segment, it must include a date

Information Segment

Information segments contain details of a flight that is a part of a passenger's itinerary and that was not booked in Amadeus

Arrival Unknown Segment

An arrival unknown segment is an information segment you enter in the PNR to maintain segment continuity. Arrival unknown means that the method of transportation from the destination of one segment to the origin of the next segment is not known.

Married Segments

Some flight segments may be restricted for use as part of connecting flights only, due to a legal requirement concerning traffic restrictions. When segments are sold together in this way, they are known as married segments. If segments are married to other segments in the itinerary, it may not be possible to cancel, price, or ticket a segment individually. If a PNR contains a married segment, a header tag **–MSC-** is displayed.

Name Element

To create a single family name element, enter: NM1AMADEUS/MOTZART MR wherein

> **NM** - Transaction code
> **1** - Number of passengers
> **AMADEUS** - Passenger's surname
> **/MOTZART MR** - Slash followed by passenger's first name and title

Additional Entries are shown in the following table:

Entry	Explanation
NM2PRESTON/MIKE MR/CATHY MRS	More than one passenger with the same family name
NM1JONES/TOM MSTR (CHD/20NOV09)	Child passenger with date of birth
NM2HOBART/JAMES MR/SARA MISS(CHD/20NOV08)	Adult passenger and a child with the same family name with date of birth
NM1WATSON/TOM MR (INF/ JOHN/24NOV10)	Infant associated to an adult with the same family name, with date of birth
NM1BROCH/ KARIN MRS(INFLEWIS/ CAROL/01NOV10)	Infant associated to an adult with different family name

Contact Element

A PNR must include a contact element (to indicate where passengers can be contacted) before you make an end of transaction during PNR creation or after PNR retrieval. Every passenger in the PNR must be covered by a contact element. A PNR can contain a maximum of 127 contact elements.

It is recommended that the contact element for passengers be entered in the following structure: APS-THR 8727751-B/P1 wherein

APS - Transaction code

-**THR** - Dash followed by city code

8727751 - Telephone number

-**B** - Dash followed by contact type

H - for Home contact

B - for Business contact

/**P1** - Passenger Association

Ticketing Arrangement Element

The ticketing arrangement element is used to indicate what the current ticketing arrangement is. The following table describes the ticketing indicators you can utilize:

Indicator	Explanation
TL	Ticketing Time Limit Ticket time limit is used to request ticket issuance on a specific date and time. If you use this option, the PNR is placed on the time limit queue (Q8) at the date and time specified.
XL	Automatic Cancellation of Itinerary This identifier enables the itinerary to be automatically cancelled when the date entered in the TK element is reached. There is no queue placement after a TKXL.
OK	Ticketed The reservation has been ticketed.

Ticketing indicators

Received From Element

The received from element identifies the person making, or modifying a reservation. It is free-flow text and you can enter a maximum of 69 characters. During PNR creation, the received from element is displayed as the second line in the PNR. After you end transaction, the received from element is no longer stored on the face of the PNR, but moved to PNR history. A received from element is required when creating a new PNR, or modifying an existing one

End Transaction

When you have entered the five mandatory elements, you must end transaction to file the record in the system. Below is a PNR during creation.

To end transaction and get Amadeus 6-character record locator, enter: **ET**

System Response

```
RP/THR1A0980/
RF HANIFI
  1.MOTZART/AMADEUS MR
  2   LH 601 H 03NOV 3 THRFRA HK1  2400 2  0300 0545    340   0 M
  3   LH 600 H 07NOV 7 FRATHR HK1  1720 1  1800 0125+1 340   0 M
  4   AP THR +9821 8505991-5 - HELP DESK/ NMC OFFICE - A
  5   TK OK02NOV/THR1A0980
>ET

                                              Amadeus Locator
END OF TRANSACTION COMPLETE  - ( ZFF5O4 ) ──────▶
```

Retrieving a PNR

You can retrieve PNRs made at your office, up to 5 days after the departure of last flight in the PNR. To retrieve a PNR that has been filed in the Amadeus, you need either a passenger surname or a record locator. The following table describes the entries you can make:

Entry	Retrieves
RTZET67B	A PNR by record locator
RT/SMITH	A PNR by family name
RT/SMITH/A MR	A PNR by family name, given name, and title
RT/B	A list of PNRs beginning with a specific letter
RT1	A name from the similar name list
1AZRTZBHJRT	Retrieve AZ PNRs
RTKL434/23DEC-GIBSON	Retrieve by Flight number, Departure date and Family name

PNR retrieval entries

Displaying PNR History

PNR history records the creation, additions, modifications, cancellations, and deletions that are subsequently made to a PNR. The system updates the PNR history of each end transaction.

PNR history consists of a list of numbered elements. The number associated to each element indicates when that action was performed.

Actions associated with the creation of a PNR are numbered 000; actions for the first modification are number 001, from the second 002, and so on. Each retrieval and modification is called a 'step'.

When an element is modified, cancelled, or deleted, it appears in history with two numbers. The first number indicates the step that the data was originally entered in the PNR. The second number indicates when the modification, cancellation or deletion was made. Every time a modification is made the system automatically records the agent sign, duty code, and the date and time the modification was made.

The following table describes the entries you can make

Entry	Requests
RH	History for a retrieved PNR
RHS3	History for a specific segment

Here is an example of PNR history:


```
000 ON/MOZART/AMADEUS MR MOZART/CATHY MS WATSON/JOHN MR
000 OS/LH 600 H 08NOV 1 FRATHR LK3 1800 0125+1/NN *1A/
000 RF-JOHN CR-THR1A0980 SU 1212SH 03NOV/1325Z
001 SP/WATSON/JOHN MR -ZN8AXB
001 RF-JOHN CR-THR1A0980 SU 1212SH 03NOV/1325Z
000/002 XS/LH 600 H 08NOV 1 FRATHR HK2 1800 0125+1/NN *1A/
002 AS/LH 600 H 10NOV 3 FRATHR LK2 1800 0125+1/NN *1A/
002 RF-JOHN CR-THR1A0980 SU 1212SH 03NOV/1349Z
```

Indicates element created in 000
Is modified in 002

* indicates who has done
* changes in 000

* A two-letter code indicates
* what has been done in 000

Print/email a PNR

The following entries are to be made to print your PNR:

Entry	Prints
WRA/RT	Actives PNR as displayed on screen
IBP	Prints a basic itinerary
IEP	Prints an extended itinerary
IEP-EML-AMADEUS@GMAIL.COM	Emails an itinerary

Modifying PNR Elements

To modify PNR elements, you use the element number from the PNR as the reference.

When you are modifying segments or special service requests, you need to know what the following advice and status codes indicate. The following table demonstrates the advice codes you can see in a segment or in a special service request

Code	Explanation	Action Required
KK	Confirming	Change element to **HK**
KL	Confirming from waitlist	Change element to **HK**
LK	Link confirmed (Direct Access)	Automatically changes to **HK** after end transaction
SS	Standard Sell	Automatically changes to **HK** after end transaction
TK	Time change in confirmed segment	Change element to **HK**
TL	Time change in a waitlisted segment	Change element to **HL**
US	Unable to accept sale – have waitlisted	Change element to **HL**
UU	Unable to confirm have waitlisted	Change element to **HL**
UC	Unable to confirm waitlist closed	Delete element (**DL** entry)
UN	Unable – does not operate	Delete element (**DL** entry)
NO	No Action Taken	Delete element (**DL** entry)
HX	Holding cancelled	Delete element (**DL** entry)

The following table describes the status codes

Code	Explanation
HK	Holding Confirmed
HL	Holding Waitlist
HN	Holding Need (have requested)

The following table describes some of the entries you can make to modify a PNR:

Entry	Explanation
5/NCE 04 92 94 56 78-H	Change a telephone contact element
6/OK	Change a time limit element to ticketed
7/12DEC	Change a ticketing element to a new time limit
1/(INF/JIM/10JAN10)	Add an Infant to a specific name
1/	Remove an Infant from passenger one
2/(CHD/10DEC05)	Add a child to a specific name

3/2	Increase or decrease the number of booked seats (Note: This can only be done on a PNR during creation and prior to end transaction)
3/HK	Change the status code of a flight segment
3/RR	Reconfirm a flight segment
5/P1	Add or change passenger association for a PNR element
3/P	Delete passenger association
5/S3	Add or change segment association
DL7	Delete an inactive segment

<div align="center">

PNR modification entries

</div>

Cancelling PNR Elements

When you cancel an existing PNR element, the system automatically transfers the information to PNR history.

You use the transaction code **XE** to cancel any element. The following table describes the entries you can make:

Entry	Cancels
XE3	Individual element
XE5,6	Individual elements in the same category, separated by a comma
XE3-6	A range of elements, separated by a dash
XE3,5,8-12	A combination of individual and a range of elements

Some points to remember when canceling PNR elements:

➢ The system automatically cancels any SSR elements that are associated with the segment or name being cancelled.

➢ When canceling SSR requests, the system automatically changes the status code to **XX**.

➢ When canceling a range of elements, you must enter the element numbers in an ascending order.

You may cancel the entire itinerary by making a single entry: **XI**

Fare Display

Amadeus Fares and Pricing is a computerized air travel pricing system. Its database stores millions of public and private fares for hundreds of different providers. The Fares and Pricing system can construct an unlimited number of fares through the dynamic add-on processing facility. There are five main features in Amadeus Fares and Pricing:

➢ Fare Displays
➢ Informative Pricing
➢ Itinerary Pricing
➢ Amadeus Best Pricer
➢ Amadeus Value Pricer

Amadeus Fares and Pricing entries are divided into two types of transactions:

➢ **FQ** – The Fare Quote transactions display information based on the data contained in an entry
➢ **FX** – The Itinerary Pricing transactions price a specific itinerary

The following tables present the Fare Quote and Itinerary Pricing entries, and show whether a PNR is required, and whether each entry is a main entry or a follow-up entry. For the Itinerary Pricing, the table indicates whether the entry creates a Transitional Stored Ticket (TST) or not.

For more information about a specific entry, enter **HE** followed by the three-lettertransaction code. For example: **HE FQA**

Fare calculation entries

Entry	Requests	PNR	Main/Follow-Up
FQA	IATA rate of exchange	No	Main entry
FQB	Bankers' rates	No	Main entry
FQC	Convert currencies	No	Main entry
FQM	Mileage calculations	No	Main entry
FQO	Mileage with published global routes	No	Main entry
FQX	Excess baggage charge calculations	No	Main entry

Fare display-related entries

Entry	Requests	PNR	Main/Follow-Up
FQD	Fare display	No	Main entry
FQK	Tax breakdown	No	Follow-up entry
FQN	Fare note	No/Yes	Follow-up entry
FQR	Fare routing	No/Yes	Follow-up entry
FQS	Booking code information	No/Yes	Follow-up entry
FRC	Convert fare display amounts to another currency	No	Follow-up entry
FRM	Extra mileage surcharge band	No	Follow-up entry

The fare display in Amadeus shows published fares based on the options contained in your entry. You can use options to specify airlines, dates, booking codes, and global routings, and to exclude default taxes. You can also request displays where the fares are sorted from lowest to highest, or highest to lowest, or according to whether the displays show one-way or round trip fares. Further sorting is made according to whether fare types and expanded parameters are used. You can change displays very easily when you begin your search for fares with a wide selection, and then narrow the search.

To request a fare display between the city of your terminal location and New York, enter: **FQD NYC**

The system assumes that the location of your terminal is the city of origin. You can request fares for a specific city pair by specifying both the city of origin and the city of arrival. For example, enter: **FQD HELNYC**

The system responds with the following:

➢ Your owner airline fares if your terminal is configured as an airline terminal, followed by the common fares (YY), if these exist.

➢ Common fares (YY), if these exist.

➢ A list of airlines that have fares for this route if no common (YY) fares exist.

➢ If nothing is specified, the system defaults to the current date and the currency of the origin city.

The following is an example of an international fare display between Frank furtand Madrid:

```
FQD FRAMAD
AB  AF  AZ  BA  DE  IB  JK  JP  KL      TAX MAY APPLY
LA  LG  LH  LO  LX  MA  NM  OK  OS      SURCHG MAY APPLY-CK RULE
OU  SN  /YY*AC AG  AJ  AK  CB  C6
DI  DY  D2  E6  FR  GX  G5  HE  HJ
HS  ID  IF  IT  IV  JD  LF  LH  LL
LQ  L9  NB  NE  QU  Q7  Q9  RY  R3
SH  SP  ST  S9  TF  TV  T7  T9  UK
UR  UV  U2  VB  VK  VY  V6  WW  XF
X3  X5  YC  Y2  ZD  ZH  ZJ  ZN  ZU
2L  3H  4U  5N  5Q  6B  6E  6G  6P
6Q  6S  7A  7W  7Y  8H  8U  9B  9F
9G  9X
ROE 0.684581 UP TO 1.00 EUR
06DEC07**06DEC07/YY FRAMAD/NSP;EH/TPM   884/MPM  1060
LN FARE BASIS    OW    EUR   RT    B PEN  DATES/DAYS    AP MIN MAX R
01 C             990               + -    -     -       -   -   -  M
02 Y             990               + -    -     -       -   -   -  M
03 C                         1650  + -    -     -       -   -   -  M
04 Y                         1650  + -    -     -       -   -   -  M
                                                     PAGE  1/ 1
>
```

The airlines listed before common fare code (**/YY***) participate in these fares. Those airlines listed after the common fare code do not participate in YY fares. The display also contains a tax message on the second and third line. The following line contains the rate of exchange and the rounding information: ROE 0.684581 UP TO 1.00 EUR

These rates of exchange are for fares filed in a national currency. The next line contains the following information which is based on your terminal defaults:

➢ The current date

➢ Common fares as no airline was specified (YY)

➢ Normal and special fares (NSP)

➢ Fares based on a specific global routing indicator (EH)

➢ Ticketed point miles (884)

➢ Maximum permitted miles (1060)

06DEC07**06DEC07/YY FRAMAD/NSP;EH/TPM 884/MPM 1060

The display shows fares sorted highest to lowest

Here is a portion of the international fare display:

```
LN FARE BASIS      OW    EUR   RT    B PEN   DATES/DAYS    AP MIN MAX R
01 C               990              +  -      -      -      -   -   -  M
02 Y               990              +  -      -      -      -   -   -  M
03 C                         1650 +  -      -      -      -   -   -  M
04 Y                         1650 +  -      -      -      -   -   -  M
```

The following table explains the column headers you can find in the display:

Column Headers in the International Fare Display

Header	Contains
LN	Line number
FARE BASIS	Fare basis The fare basis code can give you information about the type of fare, type of passenger, class of travel, minimum and maximum stay, reservation restrictions, seasonality, and days of travel. A special character before the fare basis indicates the following: * An asterisk indicates a future effective date. The fare is only priceable for travel on or after the effective date. - A dash indicates same day effective date.) A closed bracket after the fare basis indicates that the fare is valid in one direction only. / Constructed fare. + A plus sign indicates that geographic sales conditions exist.
OW	One-way fare
EUR	Currency code

RT	Round trip amount
B	Booking class (Reservation Booking Designator) **Note:** A plus sign (+) indicates that more than one booking class applies. Use FQS to obtain more information.
PEN	Penalty information. This can be: **NRF** Non-refundable **P50** 50% penalty **50** Units of local currency (fixed amount) **-** A minus sign indicates no penalty applies **+** A plus sign indicates more restrictions apply **Note:** To see more penalty information, use **FQN** to check the fare note/rule. For fares in markets that are not automated, this is always a plus sign (+).

Header	Contains
DATES/DAYS	The display contains up to two lines of date /days restrictions. **+/@** The presence of either + or @ indicates that more restrictions apply. To see more date restrictions, use **FQN** check the fare note/rule. **)** A closed bracket indicates that seasonality applies to outbound travel. **(** An open bracket indicates that seasonality applies to inbound travel. The restriction types are: **S** Seasonality **L** Ticket only on this date **A** Ticket on or after this date **B** Ticket on or before this date **E** Travel effective on or after this date **O** Originate travel on or before this date **F** Final travel must commence by this date

	C	Complete all travel by this date
	X	Fare canceled on this date
	M	Modified fare
	T	Ticket/travel future effective date
AP	Advance purchase requirements	
	+	A plus sign indicates that more requirements apply. To see any more advance purchase requirements use **FQN** to check the fare note/rule.
	-	A minus sign indicates none apply.
MIN	Minimum stay restrictions	
	+	A plus sign indicates that more restrictions apply. To see any more minimum stay restrictions, use **FQN** to check the fare note/rule.
	-	A minus sign indicates none apply.
	SU	Indicates the Sunday rule.

Header	Contains
MAX	Maximum stay restrictions **+** A plus sign indicates that more restrictions apply. To see any more maximum stay restrictions, use **FQN** to check the fare note/rule. **-** A minus sign indicates none apply.
R	Routing information The indicators can be: **M** MPM fare **R** Routing fare If you see a + sign in the routing column, use **FQR** to see further information related to routing.

Here is a fare display for Frankfurt to Barcelona:

```
FQD FRABCN
AB  AF  AZ  IB  JK  KL  LG  LH  LX      TAX MAY APPLY
SK  SR  2G  /YY*CB  FR  HE  MP  ZH
2G  9B
ROE 1.117814 UP TO 1.00 EUR
12DEC0x**12DEC0x/YY FRABCN/NSP;EH/TPM   679/MPM   814
LN FARE BASIS    OW   EUR  RT   B PEN  DATES/DAYS   AP MIN MAX R
01 Y             564           +  -     -      -    +  -   -    -  M
02 Y                  1060 +   -        -      -    +  -   -    -  M
03 YBB                 986 +   90       -      -    +  +   -    -  M
04 YLPX3M              499 +   +   S01NOV  13DEC    +SU+  3M M
                                              PAGE  1/ 1

>
```

The following table explains the fare on line 4 in the fare display:

Explanation of Line 4 in the Fare Quote Display

Component	Identifies
04	Fare line number
YLPX3M	Fare basis code
499.00	The round-trip amount
+	For booking code information, check **FQS**
+	Penalty may apply, check the fare note/rule text **FQN**
S01NOV 13DEC	Seasonality for outbound travel from November 01 through December 13
+	Advance purchase requirements apply, check the fare note/rule text
SU+	**SU** Minimum stay is the Sunday rule. **+** More minimum stay requirements may apply, check the fare note/rule text.
3M	Maximum stay is 3 months
M	This is a mileage fare

Scrolling and Changing Entries

The following list contains the scrolling and changing entries you can use whenworking with the fare displays:

Entry	Explanation
M	Move Down to the next screen of information.
MU	Move Up to the next screen of information.
MB	Move Bottom to the last screen of information.
MT	Move Top to the first screen of information.
MP	Move Previous to the **FQD** previously displayed.
MD-MLSXSL	Search for MLSXSL.
MD	Move to the next occurrence of the search text in previous entry.
MD10	Move down ten lines.
MU10	Move up ten lines.
MPFQD	Move to Previous **FQD** display after displaying other information.
FCAN/D/E/A	Change from a fare display to an availability display. The availability is based on the information contained in the fare display. You can also change to a schedule display.
ACFQ	Change from an availability display to a fare display.
ACFQ1	Change from an availability display to a fare display for line 1 in the availability display.
ACFQ1/2	Change from an availability display to a fare display for connection 2 of line 1 in the availability display.
FQDN	Change fare display to NUCs.
FQDR	Display fares for the city pair in the opposite direction.
FQDC	Change any other option. Add the elements you want to change to this entry. For example, to change a one-way fare display to a round-trip fare display, enter: **FQDC/IR** You can change as many elements as you like, provided that you keep the format of **FQDC** first, and **/R** (if any) last.
FQDC/D01SEP	Change the date.
FC1AA	Change from an Amadeus fare display to a Direct Access fare display

Airline-Specific Fare Display

If you request fares for a specific airline, the display shows YY fares after the airline's fares, assuming that the airline participates in YY fares for that market. For example: fare display request for travel from Madrid to Munich on Lufthansa is entered as **FQDMADMUC/ALH**

```
FQD MADMUC/ALH
AF   AZ   DE   DI   FU   IB   JK   KL   LX        TAX MAY APPLY
OS   SK   SN   SR   2G   /YY*CB   FR   HE
MP   ZH   2G   9B
ROE 1.117814 UP TO 1.00 EUR
13DEC0x**13DEC0x/LH MADMUC/NSP;EH/TPM    931/MPM   1117
      ** YOUTH DISCOUNT APPLICABLE ON LH SPECIAL FARE **
LN FARE BASIS      OW   EUR   RT   B PEN   DATES/DAYS   AP MIN MAX R
01 COW             718             C  -     -      -      -   -   - M
02 CRT                   1353 C  -     -      -      -   -   - M
03 YBB4                  1248 Y P10    -      -   +   + -   - R
04 BPX6MES               637 B NRF    -      -   +   +SU+ 6M R
05 MLCD6M1               415 M NRF S16OCT  20DEC+  +SU+ 6M R
06 MLAP1M09              415 M NRF S16OCT  20DEC  7+SU+ 1M R
07 HLAP14D2              335 H NRF S16OCT  20DEC+14+SU+ 14 R
08 QLZZO           136             Q  +  S16OCT  20DEC+  + -   - R
09 QLZZT                 272 Q  +  S16OCT  20DEC+  +SU+ 6M R

13DEC0x**13DEC0x/YY MADMUC/NSP;EH/TPM    931/MPM   1117
10 Y               718             Y  -     -      -   + -   -   - M
11 Y                     1353 Y  -     -      -   + -   -   - M
                                             PAGE   1/ 2
>
```

In the display above, the first nine lines of fares are Lufthansa specific, and lines 10 and 11 are YY fares.

To only display fares for the airline you specify with no YY fares, add a dash (-) in your option. For example: **FQDMADMUC/A-LH**

System Response

```
FQD MADMUC/A-LH
AF   AZ   DE   DI   FU   IB   JK   KL   LX        TAX MAY APPLY
OS   SK   SN   SR   2G   /YY*CB   FR   HE
MP   ZH   2G   9B
ROE 1.117814 UP TO 1.00 EUR
13DEC0x**13DEC0x/LH MADMUC/NSP;EH/TPM    931/MPM   1117
      ** YOUTH DISCOUNT APPLICABLE ON LH SPECIAL FARE **
LN FARE BASIS      OW   EUR   RT   B PEN   DATES/DAYS   AP MIN MAX R
01 COW             718             C  -     -      -      -   -   - M
02 CRT                   1353 C  -     -      -      -   -   - M
03 YBB4                  1248 Y P10    -      -   +   + -   - R
04 BPX6MES               637 B NRF    -      -   +   +SU+ 6M R
05 MLCD6M1               415 M NRF S16OCT  20DEC+  +SU+ 6M R
06 MLAP1M09              415 M NRF S16OCT  20DEC  7+SU+ 1M R
07 HLAP14D2              335 H NRF S16OCT  20DEC+14+SU+ 14 R
08 QLZZO           136             Q  +  S16OCT  20DEC+  + -   - R
09 QLZZT                 272 Q  +  S16OCT  20DEC+  +SU+ 6M R
                                             PAGE   1/ 1
```

Multiple Airline Display

If you request fares for more than one airline for international markets, the display includes the global routing, the MPM, and the TPM. For example: **FQDNCENYC/AAF,DL**

System Response

```
FQDNCENYC/AAF,DL
ALSO SEE NCEEWR                          XF MAY APPLY
MORE FARES AVAIL IN USD                  3.48XA/6.74XY EXCLUDED
AA   AC   AZ   A1   BA   CO   CP   IB   IJ   OTHER TAX MAY APPLY
IW   KL   LH   LY   MX   NW   PK   SK   SN   SURCHG MAY APPLY-CK RULE
SQ   SR   TP   TW   UA   US   VS   /YY*AA
AC   AF   AZ   BA   CO   DL   HE   JM   KL
LH   LO   MP   NW   NZ   OS   RG   RV   SN
SR   TW   UA   US   VS   ZH   2G   9B
ROE 1.117814 UP TO 1.00 EUR
13DEC0x**13DEC0x/NCENYC/NSP;AT/TPM  3987/MPM  4784
LN FARE BASIS     OW    EUR   RT   PEN  DATES   DAYS AP MIN MAX AL R
01 VLXZZ                     355 NRF S13DEC   X67+   + 7+ 12M AF M
02 LLXAPT4                   365 NRF S13DEC   X67+14+SU+  1M DL M
03 VLXAPT4                   365 NRF S13DEC   X67+14+SU+  1M AF M
04 LLWAPT4                   394 NRF S13DEC    67+14+SU+  1M DL M
05 LLXZZT3                   408 NRF S16DEC   X67+   + -  12M DL M
06 TLXAPT3                   415 NRF S13DEC   X67+ 7+SU+   2M AF M
07 LLXAPT3                   415 NRF S13DEC   X67+ 7+SU+   2M DL M
08 VLWZZ                     415 NRF S13DEC    67+   + 7+ 12M AF M
09 VLWAPT4                   425 NRF S13DEC    67+14+SU+  1M AF M
                                                   PAGE  1/ 3
>
```

When requesting a fare display for more than one airline, the system automatically sorts the fares from low to high.

Shopper Display

If the passenger is looking for the lowest fare for a round trip, you can use the shopper display by adding the option **/S** after the **FQD** entry. The shopper fare display sorts the fares from lowest to highest.

Note: Countries in North America, Central America and the Caribbean use the Shopper display by default and do not need to add the **/S** to the **FQD** entry.
To request a shopper display, enter: **FQDOSLNYC/S**

System Response

```
FQDOSLNYC/S
ALSO SEE OSLEWR TRFNYC TRFEWR        XF MAY APPLY
MORE FARES AVAIL IN USD              47XY/16XA EXCLUDED
YY* AA  AC  AF  AZ  BA  DL  FF  HE   OTHER TAX MAY APPLY
KL  LH  MP  NW  OS  RV  SK  SN  SR   SURCHG MAY APPLY-CK RULE
ROE 7.42840 UP TO 5.00 NOK
20AUG0x**20AUG0x/OSLNYC/NSP;AT/TPM  3671/MPM  4405
LN FARE BASIS     OW   NOK  RT    PEN  DATES   DAYS AP MIN MAX AL R
01 HLZZEU         2200      4400 NRF   -        -    -   -  12M AF M
02 HJZZEU         2300      4600 NRF   -        -    -   -  12M AF M
03 HHAN3                    4700 NRF S15SEP     -    - SU+  3M+US M
04 HKZZEU         2450      4900 NRF   -        -    -   -  12M AF M
05 QHXSAPU                  5500 NRF S31AUG   X67+  7  7+  3M+CP M
06 MHXAPW                   5550 NRF S31AUG   1234+ 7  7+    +US M
07 VHZ1           2835      5670  - S  -        -    +  -  12M+AA M
08 VHZNOW         2850      5700  - S  -        -    +  -    - TW R
09 QHZZOW         2850           NRF   -        -    +  -    - BA R
10 HHAB                     5700 NRF S14SEP     -    7  7+  1M AF M
                                                 PAGE  1/ +
>
```

This display includes an airline column that lists all airlines that participate in Amadeus. When a large number of fares exist for a city pair, the system does not show the total number of screens until you have scrolled down to the end of the fare display. The system only shows the current page number and the plus (+) sign.

Fare Display Options

You can add options to customize your **FQD** entry. See the following list for examples:

Entry	Explanation
FQD PARVIE/AAF	Specific airline fares, followed by YY fares, if the airline participates in the YY fares
FQD PARVIE/A-AF	Specific airline fares only (no YY fares)
FQD FRANYC/ALH,AF,SK	Multiple airline display (maximum three), and fares are displayed from low to high
FQD MIAANC/A*J	Joint fares
FQD PARNYC/AAF/D1SEP	Specific future date
FQD PARNYC/AAF/DSEP	Three month period, starting from1 September.

FQD PARNYC/AAF/D01JAN0x	Past date fares
FQD PARNYC/AAF/D12AUG*	Exact outbound travel date
FQD PARNYC/AAF/D01AUG*15AUG	Exact outbound and inbound travel dates
FQD PARNYC/AAF/D*15AUG	Exact outbound and inbound travel date, using current date as the outbound travel date
FQD PARNYC/AAF/D01AUG**15AUG	A range of travel start dates
FQD PARNYC/AAF/D**15AUG	From today to a future date
FQD PARNYC/AAF/D15JUL**7D	From a future date to seven days ahead
FQD NYCLAS/AHP/CYN	To request specific booking codes
FQD NYCLON/ACO/KF	Display first-class fares
FQD NYCLON/ACO/KC	Display business-class fares
FQD NYCLON/ACO/KY	Display economy-class fares
FQD FRAHEL/S	Shopper display
FQD MADLON/AIB/IX	Fare display showing fares from low to high
FQD PARHOU/ACO/IDD	All dates
FQD STONYC/ASK/IO	One-way fares only
FQD STONYC/ASK/IR	Round-trip fares only
FQD STONYC/ASK/IH	Half round-trip amount in NUC
FQD LONLAX/ABA/R,-PXA-YZ-YC	Using fare request type codes
FQD STORIO/ALH/R,*NPE-NAP-RF	Expanded parameter codes
FQD MIASEA/ACO/R,NUC	Fares in NUCs
FQD BKKSIN/ASQ/R,FS-NZD	To request fares in a specific currency
FQDC/R,FS-USD	To change the currency of the fare display
FQD FRAMIA/ALH/R,FSMXN,10JAN0x	To request past date fares in a different currency than the one set in your agent profile. To display the currency section of your agent profile, enter: **JGD/C**.
FQD MUCNCE/ALH/R,AT	Add all taxes
FQD PARFRA/D15DEC0x/ AAF/R,01AUG0x	Different travel and ticketing dates
FQD LONTYO/AJL/VTS	To indicate a global routing

FQD SYDSYD/AQF	Circle trip fares, round the world
FQD NYCLAX/R,U	Amadeus Unifares without a corporate code
FQD NYCSFO/R,U123456FQD	
NYCSFO/R,U*IBM	Amadeus Unifares for a corporate
	Contract (e.g. IBM)
FQD LONPAR/R,UP	Amadeus Unifares without a corporate code and public fares

Combining Fare Display Options: You can combine one or more fare display options in a single entry. Each option must be separated by a slash.

For example: **FQDJKTBKK/AQF/R,FS-USD,-GT**

Fare Request Type Codes: You can include fare request type codes in your **FQD** entry, to narrow down your search for specific fares. Assume that you are only interested in youth discount, PEX and APEX fares for the city pair Paris to Munich.

For example: **FQD PARMUC/A-LH/R,-ZZ-PXA**

ITINERARY Pricing

The itinerary pricing transactions allow you to price a PNR. Depending on which transaction you use, you can choose to store, or not to store the pricing response in a TST. The itinerary pricing transactions are as follows:

- ➢ **FXP** Prices an itinerary, and stores the response in a TST.
- ➢ **FXX** Prices an itinerary, without storing the response.

The following conditions apply:

- ➢ When only one fare is applicable for an itinerary, the system displays a ticket image, and stores a TST if you are using **FXP**.

- ➢ When several fares apply, the system displays a list of fares to choose from.

- ➢ When there is only one passenger, the system displays a ticket image.

- ➢ When there are several passengers, the system displays a list of passenger and fare details.

> A fare proposed by the system is valid until you do an end of transaction (**ET**, **ER**).

> The link with the Amadeus Fares and Pricing server has a limit of three minutes. If you are inactive for longer than three minutes, you will be disconnected. Re-enter a pricing entry.

> For selected markets, when the amounts of fares offered are equal, carrier specific fares take precedence over YY fares.

> The system prices an itinerary in the currency of the country of origin, and automatically converts it into the currency of your terminal location when needed.

> When you choose to store a TST, remember that the validity of the TST varies, depending on your location. The TST validity is decided by each market individually, and may be minutes, hours, or days.

Pricing a PNR

Here we use the following PNR to illustrate how to price a PNR:

```
--- RLR ---
RP/NCE1A0900/NCE1A0900              BE/SU  14JAN0x/1705Z    ZSHWF7
  1.STAR/TREK MR
  2   AF 065 K 01SEP 7 LAXCDG HK1  1435 B  1535 1115+1 *1A/E*
  3   AF 068 K 16SEP 1 CDGLAX HK1  1220 2C 1320 1605    *1A/E*
  4 AP LAX 1 310 419 2121-B
  5 AP PAR 33 6 4545 36843-H
  6 TK OK14JAN/NCE1A0900
>
```

The place of our terminal location is in France, which means that the system will convert the price from US dollars into euros, if nothing else is specified. To price the itinerary, and create a TST, enter: **FXP**

System Response

```
FXP

 * FARE BASIS *  DISC     *   PSGR       * FARE<EUR>  * MSG   *T
01 KEEUS        *         * P1           *   2913.05  *       *Y
02 KHWPXUS+K* * *         * P1           *   1603.05  *       *Y
03 KHWAPUS+K* * *         * P1           *   1491.05  *       *Y
                                            PAGE   1/ 1

>
```

Because several fares apply, the system displays a list of fares for you to choose from. To select the fare, on line 3, enter: **FXT 03**

System Response

```
FXT3

01 STAR/TREK*


------------------------------------------------------------
     AL FLGT  BK T DATE   TIME   FARE BASIS       NVB  NVA    BG
 LAX
 PAR AF  0065 K  K 01SEP 1535   KHWAPUS          01SEP01SEP PC
 LAX AF  0068 K  K 16SEP 1320   KHXAPUS          16SEP16SEP PC


USD  1267.00       01SEP02LAX AF PAR648.50AF LAX618.50NUC
EUR  1423.00       1267.00END ROE1.000000
EUR     8.99QX     XT EUR 3.58FR EUR 5.61YC EUR 14.82US EUR
EUR     6.66FR     14.82US EUR 3.48XA EUR 6.73XY EUR 3.36XF
EUR    52.40XT     LAX3.00
EUR  1491.05
RATE USED 1USD=1.12246EUR
TICKETS ARE NON REFUNDABLE AFTER DEPARTURE
ENDOS NON-END/NON-TRANS/AF ONLY
PAYMT NONREF/SAPEX
                                            PAGE  2/ 2

>
```

If you are pricing several passengers at the same time, with the same fare, you have to passenger-select with the **FXT** entry. For example, if you have five passengers in a PNR, and you are choosing the fare on line 3, enter: **FXT03/P1-5**

Pricing a Multi-Passenger PNR

Here we use the following PNR to illustrate how to price for multiple passengers:

```
RP/NCE1A0900/NCE1A0900              AA/SU  16MAR05/1428Z    ZBV4IU
  1.ARMSTRONG/LOUIS MR    2.HOLIDAY/BILLIE MRS
  3.MILLER/GLEN MR   4.WASHINGTON/DINAH MRS
  5  LH 401 F 01DEC 4 JFKFRA HK4  1520 1  1605 0530+1 *1A/E*
  6  LH 400 F 10DEC 6 FRAJFK HK4  0930 1  1000 1245   *1A/E*
  7 AP NYC 1 212 840 6852-B,SECRETARY MRS. KELLY
  8 AP FRA 49 69 696 2347-B, MR. WULF
  9 TK OK17NOV/NCE1A0900
>
```

To price the itinerary, without creating a TST, enter: **FXX**

To price the itinerary and create a TST at the same time, enter: **FXP**

The system response is the same (except for the entry on the first line).

System Response

```
FXX


   PASSENGER         PTC    NP   FARE<EUR>      TAX    PER PSGR
01 ARMSTRONG/LOUIS*  ADT    1     6600.00    100.44    6700.44
02 HOLIDAY/BILLI*    ADT    1     6600.00    100.44    6700.44
03 MILLER/GLEN *     ADT    1     6600.00    100.44    6700.44
04 WASHINGTON/DINAH* ADT    1     6600.00    100.44    6700.44


                     TOTALS  4   26400.00    401.76   26801.76
                                              PAGE   2/ 2
```

There was only one price applicable at this time, but because there are several passengers in the PNR, the system displays a list of passenger and fare details, as well as calculating the total amount for all passengers. To view a ticket image for the passenger on line 04 of the above display, enter: **FQQ4**

System Response

```
FQQ4

04 WASHINGTON/DINA



-----------------------------------------------------------
     AL FLGT  BK T DATE   TIME   FARE BASIS        NVB   NVA   BG
 NYC
 FRA LH   0401 F  F 01DEC 1605   FR                      01DEC PC
 NYC LH   0400 F  F 10DEC 1000   FR                      01DEC PC

USD  8827.00        01DEC05NYC LH FRA4413.50LH NYC4413.50NUC
EUR  6600.00        8827.00END ROE1.000000
EUR     3.74YC      XT EUR 10.54US EUR 3.70XA EUR 5.23XY EUR
EUR    10.54US      1.87AY EUR 37.38YQ EUR 17.99RA EUR 7.21DE
EUR    86.16XT      EUR 2.24XF JFK3.00
EUR  6700.44
RATE USED 1USD=0.74763EUR
                                              PAGE   3/ 3
```

Pricing Unit Concept

The pricing unit concept is a method of breaking a journey into standalone pricing units. A pricing unit is defined as a journey or part of a journey that is priced separately

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and is therefore capable of being ticketed separately. Amadeus combines the pricing units within an itinerary, if such a combination is allowed in the routing and if it results in a lower fare than a through fare.

The system processes the Advance Purchase category (AP) of all international special fares, per pricing unit. If the special fare is part of the automated rules product, the minimum (MN) and maximum (MX) stay conditions and seasonality (SE) categories are processed as well.

You can view the pricing units applied by entering the **FQN** or **FQS** follow-up transaction after pricing. For example:

```
FQN1

1 - PSGR P1 ADT
>FQN 1-1    ADT LONNYC BA  Y2        PU 1 N
>FQN 1-2    ADT NYCLAX AA  Y26       PU 2 N
>FQN 1-3    ADT LAXNYC AA  Y26       PU 2 N
                                           PAGE  1/ 1
>
```

In the example above, pricing unit 1 is a one-way fare London to New York. Pricing unit 2 is a return New York to Los Angeles.

Pricing Options

You can add options to further define your pricing requirements. The options apply equally to **FXP** and **FXX**.

The following list shows some examples of the pricing options.

Entry	Explanation
FXX/A-JRT	Prices the whole itinerary with one fare basis code. The pricing Over rides the exceptions table.
FXP/INF	Prices all infant passengers
FXP/PAX	Prices all non-infant passengers
FXP/P2,4,6	Prices an itinerary for a selection of passengers
FXP/RMIL,*PTC	Prices only the PTC for military.
FXP/R,*NPE	Prices using expanded parameters (no penalties)

Entry	Explanation
FXP/R,*NPE,*RF,*NPA	Prices using multiple expanded parameters
FXP/S2LHCFRALHR	Prices an open segment in C class on LH from FRA to LHR, after segment 2
FXP/S2,LHCFRALHR	Prices only segment 2, and an open segment in C class for FRA LHR (Note: You can request a maximum of four open segments per transaction.

The following are examples of how to combine p ricing options.

Entry	Explanation
FXP/P1-2/S2-4/S8X/S9	Prices passengers 1 and 2, segments 2 through 4, and segments 8 and 9. Indicates a transfer for segment 8.
FXP/P1,2/S5X/R,LON.FRA	Prices all segments for passengers 1 and 2, indicates segment 5 as a transfer. The point of sale is London and point of ticketing is Frankfurt

Using Passenger Discounts for Pricing

You can request discount fares by using discount codes or passenger type codes. You can include a PTC in the name field of a PNR, or in a fare discount element. The discount codes can be included in the pricing entry.

Discount Pricing by Name Field Information

You can include passenger type codes in the name field of the PNR; however, only three-character codes are accepted. The following PNR shows passengers eligible for a child discount, infant, youth discount, and senior citizen discount:

```
RP/NCE1A0900/NCE1A0900            BE/SU  17DEC0x/1538Z   YH66MW
  1.ARMSTRONG/LOUIS (CHD)   2.HOLIDAY/BILLIE MRS(INF/SUE/21MAR07)
  3.MILLER/GLEN (YTH)   4.WASHINGTON/DINAH MRS (YCD)
  5  LH 401 C 01DEC 7 JFKFRA HK4  1530 1  1615 0530+1 *1A/E*
  6  LH 400 C 10DEC 2 FRAJFK HK4  1015 1  1045 1320   *1A/E*
  7 AP NYC 1 212 840 6852-B, SECRETARY MRS. GREEN
  8 AP FRA 49 69 696 2347-B, MR. WULF
  9 TK OK17DEC/NCE1A0900
  10 SSR CHLD LH HK1/P1
  11 SSR INFT LH HK1 HOLIDAY/SUE 21MAR07/S5/P2
  12 SSR INFT LH HK1 HOLIDAY/SUE 21MAR07/S6/P2
>
```

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When you are pricing the PNR, the system immediately picks up the codes from the name fields, and applies them as discounts. See the following pricing response:

```
FXX


   PASSENGER          PTC     NP   FARE<EUR>      TAX    PER PSGR
01 ARMSTRONG/LOUIS    CH      1     4376.00     87.00     4463.00
02 HOLIDAY/SUE        IN      1      654.00     62.53      716.53
03 HOLIDAY/BILLI*     ADT     1     6532.00     87.00     6619.00
04 MILLER/GLEN        ADT     1     6532.00     87.00     6619.00
05 WASHINGTON/DINAH*  CD      1     5878.00     87.00     5965.00

                      TOTALS  5    23972.00    410.53    24382.53
                                                     PAGE  2/ 2
>
```

The system could not match the youth discount for passenger 4, and the system defaults to the normal adult (ADT) passenger type code instead.

Discount Pricing by Codes

You can request discount pricing by including a passenger discount code at the end of your pricing entry after the **/R** option. To request a discount for a child, enter: **FXX/P1/ RCH**

You can also request discount pricing for several passengers, separating the different codes by an asterisk. To request discounts for a child, a senior citizen and a military, enter: **FXP/RCH*CD*MM**

Pricing Override Options

Pricing override functions are permitted in all Amadeus markets. However, some airlines may restrict their use. If you are using pricing override functions, the TST in your PNR may be considered manual. It is your responsibility to obtain authorization from the airline owning the fare for the ticket you are modifying. The following list shows the different Pricing Override Options:

Entry	Explanation
FXP/R,12JUN0x	Past date pricing
FXP/L-LPX3M	Pricing and ticketing by fare basis
TTP/L2,4-Y6/L5-YAP	

FXP/L-GHWGV/RGRP	Pricing and ticketing by fare basis for group fares
TTP/LGHWGV/RGRP	
TTP/ZO-50A	Zap-off an amount of 50 units, or a percentage of
FXX/ZO-75P*AD75	75%, and add a ticket designator AD75
FXX/R,ET	Tax options
TTP/R,ET-FRSE	
FXP/R,AT-FRSE18A	
FXX/R,AT-NZEM12.5P	
FXP/R,WT-XY-YC-XF	
TTP/V*NZ	Ticketing carrier override (Note: This functionality is controlled by the OVC field in the office profile)

Issuance of Tickets

You can print tickets, issue e-tickets, and print itineraries and invoices. Certain markets can alsoprint boarding passes.When your PNR is complete and you are ready to print a document, click on the Document Print tab:

Printing a Ticket

The Issuing tab is displayed by default
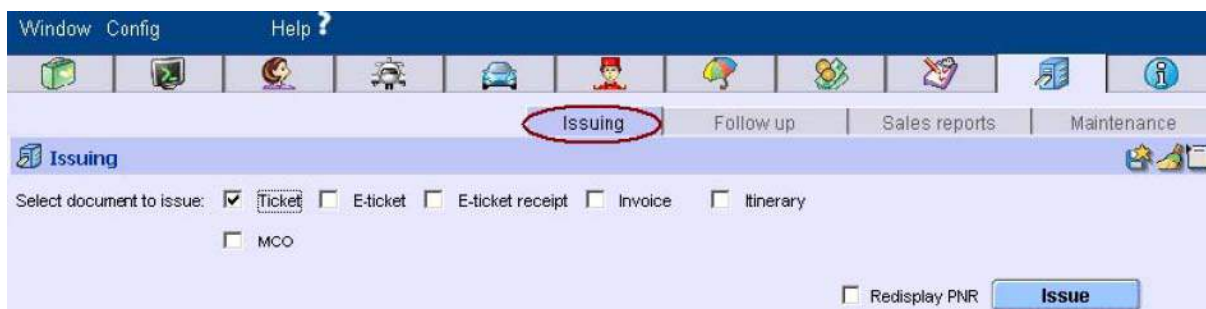
The Tickets and Documents area now includes four main sub-tabs:

Issuing	All documents can now be issued from a single tab at the same time: paper tickets or e-tickets, e- ticket receipts, Miscellaneous Charge Orders, Invoices, Insurance Certificates and Itineraries. Shortcuts to Tickets and Documents are available from the PNR or PNR Summary area. An option to redisplay the PNR after issuing a document is available. Issuing options can be customized and saved.
Follow-up	Validate, cancel or refund documents
Sales reports	Generate and check sales reports
Maintenance	Perform ticket printer maintenance, document bank and stock management, ticket delivery mechanism and print queue functions

Issuing Documents

Prior to issuing documents, the user can set issuing options for documents based on Office Profile indicators. Issuing options can be set per document from a drop-down list of corresponding controls. Use the Issuing screen within the Ticket and Documents tab to issue the following travel documents depending on your settings:

➢ Paper tickets
➢ Electronic tickets

> ➢ E-ticket itinerary receipts

> ➢ Invoices

> ➢ Itineraries

You can also issue the travel documents from the mini PNR. It is important to note that a PNR must be active and contain at least one segment to be issued. The documents that you're authorized to issue vary according to your office profile settings. When you select passengers or segments from the mini PNR, the system adds them automatically to your print request for each of the selected travel documents.

Issuing the Travel Documents

1. To issue the customer's travel documents, follow these steps:

2. Select the check boxes corresponding to the documents that you want to issue.

3. Click on SAVE/FLOPPY icon from the toolbar to save your selection. The next time you open the application, the same documents will be selected by default. The Redisplay PNR check box is always available.

4. Fill in at least the mandatory fields that are highlighted in yellow for each document that you selected. To learn more about print options, refer to Managing Print Options below.

5. Select the Redisplay PNR check box to redisplay the PNR after issuing the documents.

6. Click on Issue.

The documents are issued in order: paper ticket, e-ticket, e-ticket receipt, invoice, and itinerary. When the document is being printed, the system displays a status message (for example, Ticket in progress).

Once the document has been issued, the system displays another message (for example, Ticket issued) until the last document has been processed.

Managing Print Options

You can easily customize your screen by displaying only the print options that you use most toissue the customer's documents. To add or remove options:

1. Click on the Options tab of the document for which you want to set issuing options.

2. Click on the options that you want to add from the drop-down menu that appears.

3. The options already in use are ticked on the list. You can remove an option by clicking again on it from the menu.

4. The corresponding fields are added to your screen display.

Mandatory fields are highlighted in yellow.

Follow-Up Transactions

The new Follow-up tab features a graphical interface for performing post-sales activities to modify a sale, such as displaying, refunding, voiding, cancelling and revalidating documents.

Automated refunds can be easily handled in the new graphical interface in several different ways:

➢ From the Follow-up tab by Ticket number

➢ From the PNR ticketing element by double-clicking on the element

➢ From the Modify PNR option

➢ From the Sales Report tab by displaying a report

➢ E-Tickets can be displayed and post-sale actions performed without having to switch to the Command page.

Voiding, Reinstating, Re-Issue, Revalidation and Other Follow-Up Actions

Paper Ticket

Voiding a Paper Ticket

➢ **By the Ticket Number**

1. In the Ticket Number field (under the follow-up tab), enter the 10-digit airline ticket number. Example: 4410586619.

2. Click on Void.

3. Click on OK from the confirmation pop-up window.

A message is displayed to confirm that the ticket has been voided successfully.

➢ **From the Sales Report**

1. In the sales report tab under the Tickets and document, display the sales report.
2. Click on the ticket you want to void
3. Click on void in the tabs on the right.

A message is displayed to confirm that the ticket has been voided successfully.

Reinstating a Paper Ticket

➢ **By the Ticket Number**

After you've voided a ticket, you can reinstate the ticket

1. In the Ticket Number field, enter the 10-digit airline ticket number.
2. Example: 4410586619.
3. Click on Reinstate.
4. Click on OK from the confirmation pop-up window.

A message is displayed to confirm that the ticket has been voided successfully.

➢ **From the Sales Report**

1. In the sales report tab under the Tickets and document, display the sales report.
2. Click on the ticket you want to reinstate.
3. Click on Reinstate in the tabs on the right.

A message is displayed to confirm that the ticket has been voided successfully.

➢ **Reissuing a Paper Ticket**

1. Retrieve the PNR and click on TST
2. Click on Exchange
   ➢ The basic fare will be marked as R (for re-issue).
   ➢ The taxes will all be marked as paid (in the taxes box).

3. In the basic fare, enter the *New Basic Fare* of the ticket.

4. In the total field remove it and enter the new total amount you'll get from the passenger.

5. Enter the Not Valid After for all segments

6. In the form of payment field enter the old and the new form of payment:

   ➢ o/cash+/cash

   ➢ o/cash+/ccvi123456789123456/0808

   ➢ o/MS+/cash

7. In the original issue/exchange enter the old ticket and its details as follows:

   ➢ 077-1234567890**C**12**CAI**12JUN07/9020000

   ➢ 077-1234567890**C**23-91**C**1**CAI**12JUN07/9020000 (CONJUCTION)

   Where

   077-1234567890 represents the original ticket number

   C stands for coupon

   12 represents the numbers of the unused coupons in the original ticket

   CAI indicates the place of issue

   12JUN07 is the date of issue

   /9020000 is the IATA number that issued the ticket

8. Click on update

9. Click on OK

10. Close the TST

Electronic Ticket

Voiding an E-Ticket:

1. In the ticket number field (under the follow-up tab), enter the 3-digits code of the airline then the 10-digit ticket number.
2. Click on Display OR Double click on the ticket number in the PNR
3. The Electronic ticket record will be displayed.
4. Click on 'void' at the bottom of the record.

Reinstating an E-Ticket

1. An E-Ticket once voided cannot be reinstated.

Reissuing an E-Ticket

1. Retrieve the PNR and click on TST
2. Click on Exchange

    The basic fare will be marked as R (for re-issue).

    The taxes will all be marked as paid (in the taxes box).

3. In the basic fare, enter the *New Basic Fare* of the ticket.

4. In the total field remove it and enter the New total amount you'll get from the passenger.

5. Enter the Not Valid After for all segments

6. In the form of payment field enter the old and the new form of payment:
   - ➢ o/cash+/cash
   - ➢ o/cash+/ccvi123456789123456/0808
   - ➢ o/MS+/cash

7. Click on update

8. Click on OK

9. Close the TST

10. Double click on the ticket number in the PNR

11. The Electronic ticket record will be displayed.

12. Click on 'Exchange'.

A window message will appear with the ticket in exchange

13. Click on ok and close the e-tkt record

14. Save the PNR

Now, you're ready to issue the new ticket.

It is important to note that before you issue the ticket, please make sure you're issuing the correct TST and that all your new segments are included in the TST. If the segments aren't all included please do the following two actions:

i. Display the TST and click on 'update segments'

ii. Go back to the command page and perform: TTF/ALL

Revalidating an E-Ticket

1. In the ticket number field (under the follow-up tab), enter the 3-digits code of the airline then the 10-digit ticket number.

2. Click on Display OR Double click on the ticket number in the PNR

3. The Electronic ticket record will be displayed.

4. Click on 'Revalidation'.

A dialogue box with the steps required for revalidation will appear as follows:

5. When finished with the two steps click 'Revalidation'.

A message will appear to confirm the revalidation at the bottom of the window box.

Conclusion

This lesson has provided a hands-on exposure to the Amadeus system using the illustrative screenshots of command-driven and the menu-driven actions to perform PNR handling, fare display, itinerary pricing and ticket issuance.

Self Assessment Questions

1. Highlight the importance of Amadeus in the global travel and tourism industry.

2. Explain the product folio of Amadeus for the following sectors:

   a. Hotels

   b. Car rental companies

   c. Travel agencies

3. Describe the solutions from Amadeus for Business Travel agencies.

4. Describe the solutions from Amadeus for Leisure Travel agencies.

5. What are the PNR HANDLING functions that can be performed on the Amadeus system?

6. Describe the main features in Amadeus Fares and Pricing.

7. What are the itinerary pricing transaction options on Amadeus system? List out the applicable conditions.

CASE STUDY

Qantas Cross Sell of Ancillary Services

[*Source:* http://www.amadeus.com/airlineit/docs/Amadeus_qantas_cross-sell_case_study.pdf]

About Qantas

The Qantas Group comprises two complementary flying brands, Qantas and Jetstar, the Qantas Frequent Flyer and Qantas Freight businesses, and a portfolio of supporting businesses and investments. Qantas is Australia's largest domestic and international airline and is ranked among the world's leading premium carriers. Jetstar is one of the world's fastest-growing and most successful low-cost carrier brands, operating in Australia, New Zealand, the Pacific and throughout Asia. The Qantas Group is the world's eleventh largest airline group by passenger numbers and distance flown. It employs approximately 35,000 people and offers services across a network spanning 208 destinations in 46 countries (including those covered by code share partners) in Australia, Asia and the Pacific, the Americas, Europe and Africa.

The Context

The aviation industry, like so many commercial sectors, has faced one of its most challenging times in recent years. This has forced airlines to cut costs and look for new revenue streams in order to stay in business. In the midst of this transformation, ancillary revenues have come into the spotlight, giving airlines the motivation and justification to adapt their business model and adopt cross-sell strategies. Airlines are aware, however that it is the customer, who will ultimately determine the success of any new business model. By offering customers a one-stop-travel-shop, airlines can deliver time-saving, value-added services through a brand they already know and trust.

The Potential of Ancillary Revenues

Ancillary services fall into two broad categories: the 'à-la-carte' fees added to an 'unbundled' air fare (i.e. baggage check-in, seat allocation), and third-party value-added services such as travel insurance, hotel reservations, car hire, and activities and services at destinations which can be 'pushed' to the airline customer during the booking process. New compelling evidence pointing to the growing importance of cross-sell ancillary services is highlighted in "Cross-Sell Your Way to Profit", a Thought Leadership Paper commissioned by Amadeus and produced by Forrester Research in January 2011. The report reveals that revenue from third-party ancillary services is predicted to grow by an impressive 30% by 2015, and will account for 2.5% of total revenue for all travel suppliers.

Qantas Airways, has a clear ancillary revenue strategy. Its low-cost brand, Jetstar, is an unbundled product, charging for extras outside the ticket price, whereas Qantas itself is an all-inclusive, premium product. As Alan Joyce, Qantas Airways' chief executive explains: "We have a focus on ancillary revenue which is good with items like frequent flyers, which could grow and grow, but we are not going to get into the de-bundled category of trying to earn revenue outside of ticket sales on the Qantas brand."

The Qantas Challenge

Sourcing the technology to add cross-sell capabilities without compromising flight sales

In 2007, prior to the crippling impact the global financial crisis would have on air travel, Qantas was already looking for new ways to expand their e-commerce offering. With the travel industry 'buzzing' about the ancillary phenomenon, Qantas recognised there had to be huge potential in securing untapped revenues from the sale of third-party travel services, especially from their substantial client base of high-yield, frequent flyers.

In addition, the positive knock-on effect of enhanced customer satisfaction levels and improved web retention was a major attraction. Qantas needed to actively look for new sources of revenue, but due to the upsurge of low cost carriers, it was constrained from increasing the ticket price. In addition, it wanted to better compete with online travel agents and meet the customers' needs by offering a full-service booking site."

Qantas also realised that any cross-sell services they would introduce, had to complement their global brand, be relevant to their customers, and work synergistically with the air booking process – the core of their business. The challenge was to source an IT partner that would fully integrate with Qantas' existing IT infrastructure, without interrupting the flight sales process. When cross-selling, it is important not to compromise the air booking process.

The Solution

Scalable, Reliable, Multi-Touch Point Technology

Whilst there are many service providers in the market who offer integration of third-party content into airline booking engines, Qantas was not looking for a middle man technically or commercially as it already had the direct relationships with the insurance and car providers, and was using Amadeus. In effect, this meant that Qantas could focus on building and managing the commercial relationships with their travel partners, and not worry about the technology.

Using Amadeus Cross-Sell Ancillary Services to Add Insurance to the Booking Flow

Given the existing commercial relationship that Qantas had with QBE Travel Insurance via the Qantas Frequent Flyer programme, it made sense to first incorporate travel insurance into the online sales path. Previously, Qantas had offered QBE services via a separate transaction, however it was considered that full integration within the booking engine would help maximise sales opportunities, and ensure more customers were travelling with valid insurance policies.

Although QBE was not an existing insurance provider in Amadeus, at Qantas' request QBE and Amadeus worked together to make QBE content accessible via the Amadeus GDS. The subsequent integration into the Qantas booking engine proved to be a speedy and straightforward process for the airline. Furthermore, Amadeus provided a valuable point of sale for QBE, who additionally benefited from the subsequent growth in Qantas insurance policy sales.

This is how the cross-selling of insurance worked at Qantas website: Customers are offered a selection of insurance policies during various stages in the booking process, either whilst they are buying their air ticket in the purchasing page, or when retrieving their booking in the servicing page. Passenger data is pre-filled from existing passenger name record (PNR) information, and policies are automatically priced, facilitating a quick and easy purchasing process. The success of the insurance implementation was immediate, with Qantas seeing a return on investment one month after launch, and conversion rates of up to 8% on air tickets purchased, compared to 4.6% average achieved by all airlines.

Adding Car Rental to Bring More Value to Customers

Following on from the successful integration of travel insurance, in 2008 Qantas implemented Amadeus Cars in two formats: as a stand-alone booking solution (where a car rental booking is made independently from the air booking) on the airline's home page, and as a cross-sell solution (where the car booking is added to the same passenger record as the air booking) in the air confirmation page. There are over 30+ car providers that are seamlessly connected to the Amadeus system including Qantas' four preferred ones that use a 'payment on pick-up' model. As a result, it was a very straightforward process for Amadeus to customise Qantas' website, activate their preferred car suppliers and negotiated rates, in order for Qantas to begin selling car rental to their customers.

Enhancing the Shopping Experience

In June 2010, Qantas became the launch partner for Amadeus Shopping Basket. With this new solution, cars can now be booked on the air passenger page, and customers can add or remove car and insurance bookings to or from their unique shopping cart. Upon completion of the booked trip, users can see the total trip amount and can make the full payment in one transaction. With dynamically-priced cross-sell teasers, and a faster, more user-friendly purchasing process, the shopping basket solution contributed to an impressive increase in Qantas' ancillary revenues of approximately 400% in cars, and 100% in travel insurance.

A Total Retail Travel Site

By leveraging technology, in a very short time-frame, Qantas has been able to diversify their online sales strategy and include third-party travel services without compromising their core business of flight sales. Quick to anticipate the benefits that sustainable ancillary services can bring in terms of incremental revenue, improved service and customer retention, Qantas.com has established itself as a credible e-retail site. With sophisticated

booking technology and content that is both competitive and relevant, Qantas is able to deliver a world-class and flawless service at every customer interaction. With a clear cross-sell strategy defined, Qantas were also extremely proactive in promoting the new services to their frequent flyer customers through concentrated marketing communications that encouraged buy-in and uptake of the ancillary opportunities. These included price promise promotions and additional frequent flyer points earned on car hire bookings and travel insurance purchases placed through their website.

With the return on investment (ROI) secured in just a few months, Qantas has seen both insurance and car bookings increase exponentially since the launch of each service, boosted further with implementation of Amadeus Shopping Basket. Qantas also implemented a points redemption scheme for insurance bookings which generated a 10% incremental uptake. As a result, the airline is now considering including mileage redemption for cars rental bookings in the future.

Questions for Discussion

1. What were the Information Technology challenges for Qantas in this case study?

2. Describe the expected outcome from the IT solution required by Qantas to face the challenges.

3. How did Qantas ensure that their third-party travel services would not compromise their core business of flight sales?

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