

**PERFORMANCE AND TECHNOLOGY ON THE TRAVEL
INDUSTRY**

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Abstract

Much of the technological development taking place in the travel trade and transport sectors is, surprisingly, still at the embryonic stage. The extent to which the subsectors utilize the technology will undoubtedly grow substantially in the future. This may have the effect of increasing the market or alternatively it may merely displace business by changing channels of distribution.

Introduction

Technology, which includes IT, influences organizations in a variety of ways. In summary, technology alters the skills requirements for individuals, it changes jobs and the way they are done. It can also alter relationships between individuals and departments within the organization and may affect some relationships outside the organization with customers and suppliers. It is likely to be a major factor in determining the type of information available and how the information is used and consequently how the organization operates. Developments in technology may cause some jobs to disappear, for example traditional newspaper typesetters, but it can also open up new business opportunities which create jobs, for example the growth in telephone banking and insurance which rely heavily on advanced computing and communication facilities. Some of the more important elements outlined are developed below. Technology simplifies and reduces tasks needing manual skills and strength especially in factories and all forms of production. Properly applied, it can increase productivity.

The use of technology requires more problem solving skills and the ability to interpret data and is thus likely to lead to a widening gulf between skilled and unskilled workers. Routine tasks requiring a low level of skill are disappearing fast. As an example the copy typist has all but disappeared from many offices.

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The availability of word-processors, flexible printers and photo-copiers have effectively eliminated copy typing.

Computers, screens and communication equipment have made it possible to combine jobs which were previously carried out separately. In the process it has also enabled the tasks to be carried out by lower-level staff - known as empowering. As an example, consider the range of tasks now carried out by a British Telecom tele-assistant. Dealing directly with a customer by telephone and having the customer's account and service details displayed on the computer screen the assistant can deal with such matters as; settling account queries, initiating new services required by the customer, taking orders for new equipment, changing payment methods, deleting services no longer required and so on. Previously such tasks were carried out separately by manual methods and there were inevitable delays. Nowadays they are dealt with immediately by one person. The use of appropriate technology in properly planned systems can have dramatic effects on operations. There are numerous examples; travel and holiday agents are all linked by networks directly to the databases maintained by airlines, railways and holiday companies making possible virtually instantaneous booking, computing cash tills and bar-code readers in supermarkets are linked to computers and form part of an integrated stock control, ordering and sales analysis system without which modern supermarkets could not function.

Technology can also influence the way organisations interact with customers, suppliers and competitors. Sometimes, because of the investment required and the mutual benefit competitors collaborate over technology. For example the banks exchange clearing information in compatible form and allow other banks' customers to use their cashpoint machines. Sometimes suppliers supply free hardware and software to customers in order to make switching more difficult and costly. Pharmaceutical companies, airlines and holiday providers frequently do this. The increased use of IT systems in manufacturing means that much closer liaison is required between suppliers of components and final assemblers. As a consequence, stock control and ordering systems are frequently shared and there are often direct computer to computer links. It is worth noting that as well as increasing efficiency the close linkage means that a major assembler of, say, cars or domestic appliances, can exert considerable influence on their suppliers.

Research over many years has confirmed the influence of technology on organisational structures and on the way they operate. For example; Woodward found that when organisations were classified in order of the technological complexity of their production systems each production system was found to be associated with a characteristic pattern of organisation. Typically it was found that the number of levels of management increased with technical complexity leading to 'tall' organisations whilst simpler technologies were able to operate with flatter

structures. The span of control of supervisors was at its highest in mass production and decreased in process industries.

Based on information transmission by telecommunication lines, the viewdata is one of the earliest technologies available to the travel trade and transport sectors. The system uses a telephone line, a modem, a keyboard and a VDU to enable communication between leisure travel agents and tour operators or other companies reservations systems.

The system gained in a short time popularity because it proved that it was relatively inexpensive, relatively easy to use and reasonably reliable.

In 1980s it was introduced for the first time, in USA, computerized reservations systems (CRS), as a response of the deregulation in the airline industry. Therefore, a vast array of services and fare type become available and the potential of these new systems as “sale tools” was quickly recognized. Even if first only the airlines were involved, the tour-operators entered the market in 1976 when Thomson’s Open-line Programme (TOP) was introduced.

Suppliers, utilizing CRS, recognized the opportunities that these offered for product display and sales worldwide. This had clear implications for the competitiveness of firms and so the all-encompassing global distribution systems (GDS), with which the travel industry is familiar today, developed out of the early CRS. This has also partly resulted from the growth of the air traffic. There are now six dominant GDS – Amadeus, Sabre, Galileo, Apollo, Worldspan, System One.

Taken together, videotext networks and GDS technologies have a number of advantages for the travel agents: instant information provision, complete reservation facilities, organizational improvements (integration of “back-office” functions, e.g. accountancy / personnel ; integration of “front-office” functions, e.g. customer records/itinerary construction etc.), financial and operational control, market research and strategic planning. In addition, the larger travel agents experience a better coordination and control between remote branches and headquarters.

The internet, intranets and extranets

The Internet is a diverse series of networks owned and operated by Internet service providers.

Unlike both viewdata and CRS, with their travel related focus, the Internet has both a far wider audience and application. The travel business was one of the first to embrace online technology. Whilst the many sites sell flights, hotel accommodation and car hire, the sophistication and capabilities of the sites are often not as advanced as those in other business areas.

The Internet is still relatively young and changing constantly. The US domestic Internet market has been growing at a phenomenal rate since the mid-1990s. Growth on a large scale has only more recently begun elsewhere in the world. In March 1999 Mintel commissioned research through NOP which found 13 per cent of adults to have a personal computer with Internet connection in their home. Some other adults were expecting to become connected and yet others will have access to the Internet at their place of work. Clearly any increase in the number of adults able to access the Internet has implications regarding how many are able to use this as a method for booking holidays. Only around a third of those with access had made a purchase online yet selecting holidays / flights from travel agents / tour operators was the second most popular use of the Internet.

The future size of the market sector is equally difficult to estimate although it is generally recognized that the market sector is growing rapidly. Internet sales are expected to grow as consumers become more familiar with this distribution channel. The medium is highly suited to the sale of late availability products. It is however argued that consumers still like face-to-face contact, particularly when booking a costly main holiday.

To date, the vast majority of travel booked online has been airline tickets and whilst this is likely to continue to dominate, other travel products including car hire and package holidays may account for a greater percentage of total sales in future.

Among the advantages using this method of booking are: access 24 hours / day, available from the comfort of one's own home, speed, simple to use, comparison of different principals sites is possible, a variety of online travel agencies exist, useful tool to research options, cost reduction. Of course there are a few disadvantages too, like: problems with speed in some countries, customer service requirements not always met, problems with access in some countries, telephone charges high in some countries, the complexities of the industry may not be fully appreciated by the consumer, could be complicated / confusing for some, problems with cost in some countries. All of this reflects not only differences between countries (some have more advanced technology than others) but also differences in consumer perceptions – what appears easy to use to one consumer may appear complex to another. Generally, younger consumers are more comfortable with the Internet than are older consumers.

A variety of organizations and systems have evolved around Internet technology. "The Corporate Team" for example operates an online booking service providing corporate travelers with access to more than 500,000 hotels worldwide. This service completely bypasses the conventional GDS and therefore also GDS fees. The Corporate Team promotes itself as enabling companies to enforce travel policies by controlling which hotels are made available to business

travellers based on employee status and suchlike. It is accessible online via the company intranet or the Internet.

The Internet is also providing unique opportunities for multimedia presentations, transforming uninspiring, text-based screens of GDSs into interactive electronic brochures.

Specialist online airline and travel agency sites are being continuously developed at present. Whilst many of the established high street travel agents have been slow to develop their online offerings, other so-called.com organizations have established web-based travel intermediaries. Some of the main specialist online travel services are: British Airways.com (launched in 1995, BA's website was one of the first airline websites to go live), Bargainholes.com (the company claims to be the largest online package holiday), Deckchair.com (the company aims to simplify the process of accessing destination information), ebookers.com (the company offers worldwide flights and hotel booking, car hire and travel insurance as well as travel holiday), Expedia.com (a leading provider of branded online travel services for leisure and small business traveller), Lastminute.com (set up as an Internet travel company selling late holiday deals online, moving unsold capacity for operators), Travelocity.com (the company has a five year deal to be the exclusive provider of travel booking sites on all AOL properties).

According to C. Tyler it was the online travel agents who took an early lead in terms of online market share with some 80 per cent of online travel sales made via these sites in 1996 whilst only 20 per cent were made direct to the airlines. This Tyler partly attributes to the fact that most airlines were slow to develop effective, fast and easy-to-use airlines. This is easily understandable in the case of the smaller airlines as the costs of a good online site can be prohibitive. More recently, major airlines have been upgrading their sites with some offering non-air-based travel products alongside their own products. Customers also like to have a choice of both fares and routings which, of course, favors online agencies over online websites. In order to pursue the right combination of airline sites consumers may need a high degree of knowledge regarding which carriers operate on which routes (depending on the complexity of the journey). Added to this, time searching the different airlines sites can be extremely time-consuming.

In addition to the major online specialist travel service providers outlined above, there are numerous specialist companies. Indeed, it can be argued that the medium lends itself to the needs of specialist operators and the travelers they aim to attract. There are specialist online travel companies for women-only travel organizations such as www.adventurewomen.com and www.arcticladies.com. A specialist online winter sports site is being created as two specialist online travel sports sites merge into an online business called IfYouTravel.com.

A useful way of employing online technology is to use this to remove unsold stock at the last minute in order to overcome some of the difficulties caused by the perishability of the travel product. One means of doing this is to hold online seat auctions as pioneered by Cathay Pacific USA in 1995. According to Tyler, this has the added advantage of drawing attention to new destinations or website improvements and so are used also for promotional purposes. He describes a further way of clearing inventory, used by Priceline.com, whereby prospective customers “bid” for tickets. This involves the prospective traveler in filling out a ticket request form on the company’s website, stating where and when they wish to travel and the price that they are willing to pay. Priceline then examines the seats at its disposal from participating airlines and informs the traveler within 24 hours as to whether or not their bid has been accepted. Bids that are too low will be rejected and the consumer then has the opportunity to submit additional bids using different airports or dates. The downside to use of the system includes that tickets are non-refundable, non-exchangeable and non-endorsable as well as which flexibility is required in terms of flight times, stops or connections en route may be necessary and no choice of airline is offered.

A further, price-sensitive technological aid to travel booking consists of robotic search engines. These are designed to search a range of participating airline and GDS websites for the lowest fares on specified routes and dates. intelliTRIP, developed by TRIP.com is an example of such a system currently dealing with flights originating in the USA on particular carriers.

CD-ROM technology

This technology enables travel and tourism providers to promote their services in a less traditional manner than the ever-popular holiday brochure. Despite its potential, this technology has not been used extensively by the travel and tourism industry to date. Virgin is one of the companies to use this though having introduced a Ski-D-Rom brochure in 1996 to guide viewers through a range of holidays. The 1998 disk, which was offered to customers for £10 (refundable if they booked a Virgin holiday), featured the following: visual graphics, videos of all resort areas, virtual tours of three areas by helicopter, nine interactive ski trail maps, interactive street maps, photo galleries with full screen pictures of the resorts, on-screen prices for all holidays.

Virtual reality

Like CD-Rom technology, virtual reality offers great opportunities to aid the promotion of travel and tourism products by enabling potential consumers to experience a “virtual tour” and make a more informed choice as to whether or not

to visit a region, resort or even a particular hotel. This technology could help with even more specific decisions such as choice of cabin on a cruise.

In common with other commercial areas, travel and tourism could benefit from smart card technologies. These cards contain a miniature computer processor chip with memory. Amongst other applications, smart cards could be used to record frequent flyer programme (FFP) points and for accommodation check-in.

Electronic ticketing

In common with most of the main developments in the airline industry this form of “paperless travel” originated in the USA and has since moved into Europe and Asia. Whilst not yet the norm, the use of electronic tickets, or e-tickets, has expanded rapidly.

Their use offers a number of advantages for both airlines, such as: savings in ticket distribution costs, savings in revenue accounting and billing processes, reduction in handling costs associated with paper; and consumers, such as: ease of use, impossibility of ticket loss, flexibility, time-saving, faster check-in.

E-tickets can be purchased by telephone, through the Internet, at airline counters or travel agents. Typically consumers pay with a credit card and receive a confirmation number at the time of booking. Once at the airport, the passenger simply needs to give their name and show some identification or the credit card used to make the booking. They usually receive a boarding pass in return. This form of “paperless travel” is not however without its problem:

- Government regulation require “notices” to be provided to passengers on international flights and in Europe the onus is on travel agents to inform passengers of their travel rights under the Warsaw Convention. This may involve sending a letter or fax to the traveler.

- E-tickets cannot be used by passengers on journeys with more than four flight sectors or those involving more than four different carriers

- If a passenger, with an e-ticket, misses a flight or needs to make a schedule change it is difficult for other carriers to honour tickets without proof.

The idea behind e-ticketing is to remove the paperwork from ticketing although in reality airlines often send written confirmation of the booking. Expedia introduced e-ticketing for customers booking BA flights. Users get an e-mail confirmation of the booking and then simply turn up at check-in their credit card.

Multi-media kiosks

Electronic systems enable customers to research and book travel products through networks of self-service kiosks. Whilst these systems are still emerging

and not yet widespread, they offer considerable scope for the future of travel distribution. Non-travel retailers wanting to develop travel-related sales yet without the expertise to do so easily could employ these as a means of establishing a travel sales interest.

Teletext is a popular consumer method of researching package holiday options, especially late availability products. Thomson acquired two leading teletext agencies, Team Lincoln and Manchester Flights. Travel House is one of the UK's largest Teletext agents.

Interactive Media Initiatives

E-map online which was introduced in relation to their Internet offering, also has eight interactive TV services with cable company networks. This offers a further means by which consumer can access information from home. The company is also trialing hand held devices including WAP (wireless application protocol) phones with Nokia 7110.

The number of households subscribing to digital TV services will influence the extent to which shopping for travel and holidays via interactive TV will take place. NTL, a cable company, for example, has launched digital cable TV which provides an interactive channel. Whilst it is not certain what proportion of subscribers will wish to buy travel and holidays in this way, household penetration of digital TV is 31 per cent by the last years.

Some leading travel companies are already developing a presence on interactive TV. Going Places is a content provider for the interactive television service OPEN. The system enables customers to access a mixture of information, including video clips, on destinations, resorts, flights and hotels. This is in addition to the company's presence on Teletext. Similarly, Thomas Cook has signed an interactive TV deal with Teletext. The UK's first home shopping TV channel, TV Travel Shop, describes itself as providing a travel agency service in the comfort of the customer home. The UK's first home shopping TV channel has grown substantially since it was launched as Europe's first transactional travel channel in 1998. It is carried on satellite, cable and digital TV presenting studio reports and interviews, destination "brochure" films, special programmes featuring exclusive offers and newsroom-style bulletins with up-to-the-minute special offers. TV Travelshop is fully bonded with ABTA and works in conjunction with leading tour operators including Airtours, First Choice, Kuoni and Virgin Holidays. Sales in the first year reached £72 million and TV Travelshop is now available in more than 7 million homes across the UK. Further development is planned with new digital TV channels, a website and interactive television.

Wireless Application Protocol (WAP) Phones

At this time wireless application protocol phones are an emerging technology. WAP gives Internet access, via a mobile phone or palmtop, delivering information via the Internet to consumers on the move or away from their usual access site. Competition for the third generation (3G) phones is likely to be fierce given the fact that a single global standard could emerge reasonably quickly. Early versions are mobile phones that comply with the wireless application protocol standard way of transmitting real time content. This allows mobile phones to browse the Internet. Successful contents businesses will take advantages of the inherent characteristics of these little devices. The geography is very important in this situation. Whilst handheld devices are mobile, their position is instantly identifiable. Identification of “content” that knows where the user is and offers content tailored to that geography might therefore be appropriate. The potential for relevant application of this technology to tourist could exist for example through provision of weather forecasts, restaurant locations and even bookings. The integration of computers and wireless technologies will undoubtedly impact on the travel market.

Major carriers usually offer bonus miles for bookings made directly through the airline’s website. A few years ago, United Airlines offered 4000 frequent flier miles to each customer for the first United ticket they bought directly through United’s website in order to promote this method of booking.

Discounts linked to bookings made via airlines’ own websites have met with opposition from the American Society of Travel Agents (ASTA). The US Department of Transportation was asked to investigate airline Internet “fare wars”. The investigation aimed to determine whether or not these were unfair and deceptive practices under the Federal Aviation Act by discriminating against customers without Internet access. The airlines argued that there were sufficient public Internet access points.

E-commerce is a major expansion area for most of the large tour operators. Some showed reluctance towards the adoption of key technologies in the past yet most now have realized that they cannot afford to be without it. Large airlines are equally keen to keep abreast of technological developments and to implement these appropriately. As an example, British Airways set up a special airline taskforce in 1999 to ensure that the company stays at the forefront of e-commerce.

Technology and the small operator

ITs can help smaller operators to conduct business on a level footing with their larger counterparts. The Internet for example enables smaller tour operators

to compete with the promotional reach and distribution strategies of the mass market players. This has clear implications for an industry characterized by a polarization between a handful of extremely large, dominant companies and a proliferation of small, specialist firms.

The Association of Independent Tour Operators (AITO) is currently helping smaller tour operators to offer their services on-line. The traditional Viewdata systems are prohibitively expensive for these organizations.

Conclusions

Whilst technology has been rapidly diffused with some sectors of travel trade and transport, other sectors have shown less willingness to embrace the technology and are likely to suffer for this. Debate surrounding the future of the retail travel sector in an age characterized by both established and emerging technological means of reaching the traveling public appears likely to continue for some time to come. The need for technology and technological expertise is increasing the numbers of barriers for both travel agents and tour operators. It could equally be argued however that this is decreasing the number of barriers as the falling costs of technology and telecommunications could however help to offset the barriers in the longer term.

Technological developments are likely to continue apace in travel and tourism. The emerging market for wireless portable appliances and especially Internet-enabled mobile phones will result in a boom similar to that caused by the emergence of the Internet. Whilst the early versions which are appearing at this time are restricted in both form and content, they could point the way to the future. Indeed, mobile electronic commerce (m-commerce) applications for small mobile phones are still limited but market researchers suggest a rosy future for it.

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