Unit Title: IT in Hospitality and Tourism Operations  
Guided Learning Hours: 160  
Level: Level 5  
Number of Credits: 18

Learning Outcome 1  
The learner will: Understand the role of ICT and its uses in the travel, tourism and hospitality industry.

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<tr>
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<td>The learner can:</td>
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<td>1.1 Demonstrate understanding of the meaning of ICT in a business context.</td>
<td>1.1.1 Information and Communications Technology (ICT) is the catch-all phrase used to describe a range of technologies for gathering, storing, retrieving, processing, analysing and transmitting information.</td>
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<td>1.2 Explain the evolution of ICT in business and wider society over the last two decades.</td>
<td>1.2.1 Advances in ICT have progressively reduced the costs of managing information, enabling individuals and organisations to undertake information-related tasks much more efficiently, and to introduce innovations in products, processes and organisational structures. ICT is the fusion of computers and telecommunications.</td>
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<td>1.3 Understand the general applications of ICT in society.</td>
<td>1.3.1 Computers enable people to work creatively. But they are limited by what they can access. Adding a communications channel, such as the internet or other information services, significantly extends the capability of the computer. It allows it to be not only an inexpensive communications device. It can also become a means of obtaining education, information, and working creatively with others irrespective of geographical barriers.</td>
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| 1.4 Identify the features of TTH and how these relate to ICT use. | 1.4.1 ICT in TTH must be seen in the wider context of communications technology in society generally, particularly as a vehicle for new forms of communication (mobile telephones, internet, social networking) and for purchasing in the developed world. Contrasting contexts of ICT in the developed and developing world is an important underlying theme for this subject and students should understand that context is important in understanding all aspects of this area. ICT is used across a wide range of functions and contexts in travel, tourism and hospitality. These uses include:  
  • Communications with customers, suppliers and others;  
  • Finance;  
  • Management information;  
  • Security;  
  • Scheduling; |
Reservations and revenue management;  
Marketing and sales;  
Energy and waste management;  
Training;  
Entertainment;  
Office functions;  
Public relations, and  
Links to other service providers in travel, tourism and hospitality and beyond, through cross-sales, strategic alliances and other forms of cooperation, facilitated by web and other ICT links.

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### Learning Outcome 2
The learner will: Understand the uses and impact of ICT in all TTH related operations, such as the accommodation, restaurant, travel, transport and attractions sectors.

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| 2.1 Identify uses of ICT in tourism business operations, management information, financial management, guest relations, energy and security. | 2.1.1 ICT uses in the accommodation sector are varied, and the extent to which ICT is used and the form of its application are linked to the type of accommodation provider (luxury hotel, budget hotel, bed and breakfast, backpacker hostel), the size of the operation, its ownership and its location. Typically, uses of ICT within accommodation are concentrated in the rooms division or front office area. Here, functionality relates to:  
   • Reservations;  
   • Check-in/check-out;  
   • Guest histories;  
   • Guest billing and related applications, and  
   • Room status information. |

Most larger accommodation providers have integrated ICT systems which permit links to all other areas of activity in the property, particularly in terms of availability and billing.

ICT is also widely used by accommodation providers in support of their marketing and advance reservations. This may be through use of a website, either property-specific or linked into a central corporate website and reservations system. This is accessible by travel agents and by consumers, frequently using different portals and pricing structures. Increasingly, websites are the ‘front door’ to hotels in terms of information provision, including virtual reality representation of facilities and environment. Direct enquiry and booking facilities are widely available on the web.

 Websites are not exclusive to larger or chain accommodation providers. They are now readily constructed at low cost and are used by even the smallest bed and breakfast or guest house in
remote areas, permitting direct access to consumers in a manner previously unheard of.

Accommodation providers also use ICT to enhance the guest experience through provision of:

- Ambient heat and air conditioning control in bedrooms;
- Security systems in bedrooms and public areas;
- Entertainment systems in bedrooms, and
- Business and office systems in bedrooms such as wi-fi internet access.

Restaurants are relative newcomers to effective use of ICT and many smaller establishments still make limited or no use of such systems. Some of the applications referred to here are also in use in the food and beverage areas of hotels as well as other accommodation providers. In restaurants, ICT functions in three main areas, as shown below with their applications:

Catering
- Menu management.
- Recipe costing and development.
- Nutritional analysis.
- Hazard analysis critical control points (HACCP) monitoring.
- Stock control.
- Purchasing.
- Beverage control and security.
- Electronic point-of-sales (EPOS).

Finance, management and marketing
- Management information.
- Guest billing.
- Marketing including the use of websites and reservations systems.

Customer service
- Guest histories.
- EPOS for rapid and accurate information on ordering.

2.2 Recognise limitations to the use of ICT in TTH businesses.
2.2.1 Limitations to the use of ICT in TTH businesses include poor availability, lack of coverage of all areas, malfunctions, security, limitations in consumer knowledge or information processing abilities etc.

2.3 Assess the impact of ICT on business practices in the TTH sector.
2.3.1 Virtually all sub-sectors within travel and transportation make use of ICT at one level or another. Some areas have been relatively slow to adopt ICT to its full, notably local transport companies (bus, taxi etc.) but its use has revolutionised the operations of major travel and transport providers and has enabled extensive links to be formed between different providers in travel and transport and also with accommodation providers etc. Key areas of ICT use in transport, notably airlines, include:
- Reservations and yield/revenue management — in this
area, airlines are undoubtedly market leaders in providing an accessible interface which permits consumers and the trade to access information on schedules and fares in real time on a 24/7 basis and make real-time bookings;

- Sales and marketing to agents and tour operators through Global Distribution Systems (GDS);
- Management of bookings once confirmed in terms of seat selection, reservation changes, payment for additional items, special requirements;
- Automated check-in online and at airport kiosks and printing of boarding passes;
- Baggage tagging and tracking;
- Aircraft scheduling and crew rostering;
- Aircraft tracking – departures, arrivals, delays;
- Flight planning and operationalisation;
- Technical performance monitoring;
- Crew training;
- Catering;
- Frequent flyer programmes, and
- Management and financial information.

Key uses of ICT in the travel sector include:

- Packaging of vacations and other travel;
- Purchasing;
- Use of GDS in the packaging process, and
- Marketing and sales online.

Generally ICT use in the attractions and heritage sector is not obtrusive but does play an important role nonetheless.

General management and information/reservations systems are in use and have much in common with those used by other sectors of travel, tourism and hospitality. The context of these areas is such that particular use is made of communications technology during special events, for example when organisers cater for mega crowds.

Undoubtedly more innovative use of ICT is to be found in contemporary museums and attractions through use of:

- Animation and virtual reality to enhance and bring to life exhibits and special exhibitions;
- Guest guide and information systems for city tours, attractions, etc., which can be customised to the specific interests, language and demographics of each guest, and
- Historical archives and searchable sources in genealogy.

The list of possible uses here is extensive and is an area worth researching in the context of local providers and events.
### Learning Outcome 3
The learner will: Understand the varied uses and impacts of ICT for individual business, destination and national tourism marketing.

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<td><strong>3.1 Describe the uses of ICT in information provision about businesses, destinations and countries.</strong></td>
<td>3.1.1 Destination marketing and management at local, regional, national and trans-national levels make increasing use of ICT in order to provide global access to the travel trade to provide individual consumers with information and reservations relating to that destination. The prime function is the provision of interactive portals which permit individual providers within a destination to be show-cased in a form that might not otherwise be possible. Internet sites can also act as a central reservations system, allowing group or individual bookings.</td>
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<td><strong>3.2 Describe the uses of ICT in promotion and marketing.</strong></td>
<td>3.2.1 Internet sites and their reservations engines have largely superseded traditional brochure marketing for destinations and allow far greater spread and wider access to markets which would, historically, have been beyond the immediate reach of destination marketing. ICT also supports market and consumer satisfaction research by destinations in the form of entry and exit as well as expenditure surveys.</td>
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<td><strong>3.3 Describe the uses of ICT in virtual and dynamic packaging.</strong></td>
<td>3.3.1 It is important that students understand the changing nature of tour packaging which ICT has permitted. Traditional packaging was fixed or static in that the customer bought what was available – 14 nights in a specified hotel in a destination with flights specified by the tour operator. Dynamic packaging, either by the tour operator or by the customer, allows total choice and flexibility and is made possible through the power of information access and reservations tools which are available online.</td>
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<td><strong>3.4 Describe the uses of ICT for destination representation.</strong></td>
<td>3.4.1 The other major consideration in marketing is the access to global markets which the internet provides for small and medium-sized enterprises (SMEs) which, previously, were dependent on intermediaries, usually destination marketing organisations, such as tourist boards, for their marketing. Using ICT, they can access consumers directly and instantly, creating major new market opportunities for them.</td>
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Learning Outcome 4
The learner will: Understand the impact of ICT on the travel, tourism and hospitality distribution chain in relation to consumers, intermediaries and other service providers.

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| 4.1 Explain the nature of tourism distribution.                                     | 4.1.1 Traditional distribution chains in travel, tourism and hospitality were:  
  • Slow;  
  • Paper-based;  
  • Expensive;  
  • Dependent on intermediaries;  
  • Limited in coverage, and  
  • Not always bespoke to specific nationalities and cultures.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 4.2 Describe the role of ICT in distribution in relation to accommodation, transport, tour packages, heritage and attractions. | 4.2.1 ICT has changed the face of travel, tourism and hospitality distribution and has had a major impact on key stakeholders, notably intermediaries such as travel agents.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 4.3 Describe how customers use ICT – control, access, booking and packaging.        | 4.3.1 ICT access via the internet has brought information and reservations possibilities to consumers worldwide on a 24/7 basis. Consumers can purchase most elements of their travel and tour requirements online, without the need to utilise intermediaries for either information or the actual reservation. Direct purchasing via the internet is considerably cheaper for service providers such as hotels and airlines, and it eliminates both labour costs and commission payments. In theory, some of these savings can be passed on to the consumer who is informed by some airlines, for example, that web fares are lower than those obtainable elsewhere. ICT gives consumers of travel, tourism and hospitality:  
  • Direct access to comparative information on travel, accommodation options;  
  • Information on products and services on offer;  
  • Real time price comparisons;  
  • 24/7 booking access from home or office, and  
  • What are claimed to be the lowest fares or rates available.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 4.4 Outline the limitations to ICT-induced changes in TTH distribution.             | 4.4.1 ICT, however, is not without its problems with respect to the process of distribution. Making use of ICT access to travel, tourism and hospitality products and services requires:  
  • Access to internet systems of broadband quality;  
  • Confidence to use the internet;  
  • Reliable power supply;  
  • Use of a credit card form payment;  
  • Confidence in online payment security, and |
Lifestyle flexibility in order to avail oneself of the lowest fares at the times when room rates and flights are at their cheapest.

Such access is by no means universal in developed countries, and is confined to a small minority in many developing countries.

The internet has led to sustained changes in the tourism industry. The dynamic development of e-tourism is likely to continue. In the past 30 years, the tourism industry has been influenced by three major waves of information and communication technologies (ICT): the Computer Reservation System (CRS) in the 1970s, the Global Distribution System (GDS) in the 1980s and the internet from the mid 1990s onwards. This development has considerable implications for all intermediaries in this industry in that disintermediation and re-intermediation occur in parallel. In economics, disintermediation is the removal of intermediaries in a supply chain: ‘cutting out the middleman’. Instead of going through traditional distribution channels, which had some type of intermediate (such as a distributor, wholesaler, broker, or agent) companies may now deal with every customer directly, for example via the internet. One important factor is a drop in the cost of servicing customers directly. Re-intermediation allows businesses to provide value as a middleman in order to avoid disintermediation and, in the context of this discussion, involves intermediaries redefining their roles in the travel, tourism and hospitality marketplace.

ICT enables service providers in tourism to interact directly with consumers, which puts enormous pressure on traditional intermediaries such as travel agencies and tour operators. The extent to which intermediaries are bypassed differs considerably between sub-sectors. While, for example, the accommodation sector is only partially affected by disintermediation, specific branches of the transport sector, especially the aviation industry, tend to be strongly affected by disintermediation. The impact has been particularly felt in the travel sector where retail agents, operating on the ‘High Street’ have seen a considerable decline in core business and have had to redefine their role and the services they offer in order to survive.

Yet ICT solutions may also provide new opportunities for traditional players and newly emerging online intermediaries. Many new market entrants who operate exclusively online and do so successfully provide intermediary services, while some ‘bricks-and-mortar’ intermediaries have managed to secure their position in the market by offering value-added online services.

A relatively new trend that has attracted much attention is ‘dynamic packaging’. Traditional packages provided by tour operators and agencies are bundling separate products quite well, but offer limited flexibility for customers. The trend towards individualisation creates demand for more flexible, dynamic packages. Although technological and
organisational barriers for truly dynamic packaging are considerable, a number of players are working energetically on the development of feasible solutions for dynamic packaging.

**Learning Outcome 5**
The learner will: Understand the impact of ICT on consumer behaviour and the service encounter.

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<td>5.1 Describe the role of ICT in providing enhanced consumer choice and information access.</td>
<td>5.1 This learning outcome looks at the wider consumer behaviour implications of changes to the distribution chain in travel, tourism and hospitality. Consumer behaviour is the study of consumers that helps firms and organisations improve their marketing strategies by understanding issues such as:</td>
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<td>• The psychology of how consumers think, feel, reason, and select between different alternatives (e.g., brands, products);</td>
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<td>• The psychology of how the consumer is influenced by his or her environment (e.g. culture, family, signs, media);</td>
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<td>• The behaviour of consumers while purchasing or making other marketing decisions;</td>
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<td>• Limitations in consumer knowledge or information processing abilities and how these influence decisions and marketing outcomes;</td>
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<td>• How consumer motivation and decision strategies differ between products that vary in the level of importance or interest that they entail for the consumer, and</td>
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<td>• How marketers can adapt and improve their marketing campaigns and marketing strategies to more effectively reach the consumer.</td>
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<td>5.2 Explain the value to consumers in accessing real-time information.</td>
<td>5.2.1 Of specific interest here in relation to consumer behaviour are a number of consequences of the ICT revolution in travel, tourism and hospitality:</td>
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<td>• Lower real costs of travel, tourism and hospitality products, brought about in part by lower distribution</td>
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costs and increased competition;
- A willingness to follow price rather than be influenced by destination attributes in vacation choice. Low cost seats in themselves enable newer low cost airlines to maintain a high load factor to destinations which might otherwise have not been visited;
- Direct consumer access to comprehensive information on products and services from large, small and micro providers worldwide, and
- 24/7 consumer access to travel information and the ability to purchase at any time of the day or night.

5.3 Explain the challenges to service as a result of depersonalisation and difficulties in handling unorthodox requirements.

5.3.1 A consequent ‘casualisation’ of the vacation and wider travel process so that decisions can and are made in a much more informal basis than might have been the case in the past. Growing tendency to set travel purchase decisions alongside those involving other mid-price consumer goods, electronic and entertainment equipment, for example.

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**Learning Outcome 6**
The learner will: Understand the use of social networking and other informal ICT systems in tourism marketing and information sharing.

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<td>6.1 Explain the meaning and uses of informal ICT systems and social networking.</td>
<td>6.1.1 The focus of much discussion about ICT in travel, tourism and hospitality is on formal systems and the way in which consumers behave within what might be called the ‘formal’ TTH environment. It is important to recognise the growing importance of informal information sources about travel, tourism and hospitality that are available as a result of the ICT, specifically, the internet revolution.</td>
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</table>
| 6.2 Assess the role of informal and social networking sites relating to TTH. | 6.2.1 Students should be familiar with the use and role of informal information providers and sources of ideas about destinations and providers such as:  
- Facebook;  
- Twitter, and  
- Trip Advisor.  

They should also be aware of the power of such sites and the speed at which information can be shared about a good/bad experience. The ‘informal’ TTH environment includes:  
- Blog sites by travellers and others, recounting their experiences in a general sense.  
- Blog sites dedicated to experiences with one specific provider (airline/hotel etc.).  
- Public access video sites which allow consumers to post film of their experiences as consumers of a |
particular theme park, hotel or cruise ship.

- Chat rooms which permit real time exchange of experiences.

6.3 Explain the value and limitations of informal information.

6.3.1 These sources of information are wholly unregulated and may or may not represent accurate information about travel, tourism and hospitality providers. In a sense this does not matter because of the power and impact that the informal systems can have, whether justified or not. They are where, increasingly, people go for information prior to using a facility or travelling with an airline.

Learning Outcome 7
The learner will: Understand the benefits and challenges in the use of ICT in the travel, tourism and hospitality industries of developing countries.

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<tr>
<td>7.1 Explain geographical, economic, political and socio-cultural limitations to TTH access.</td>
<td>7.1.1 The tourism industry has been transformed by information and communication technologies (ICT). The internet has dramatically changed the way in which consumers plan and buy their holidays. It has also affected how tourism providers promote and sell their products and services.</td>
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The market for tourism relies on information. A consumer in Canada wanting to stay in a remote hotel on a Thai island needs up-to-date information about boat connections, activities on offer, and even recommendations from other travellers. The internet enables the providers of all these types of products and services to interact directly with consumers around the world at a relatively low cost.

Using ICT to exchange information about products and services enables all actors involved in tourism to be aware of what services are on offer. For example, an entrepreneur can make sure his/her hotel will be visible to tour operators who are involved in arranging package holidays.

Developing countries are major tourist destinations. However, a large proportion of the profits from tourism drain out of the world’s poorer nations and back to large travel firms, hotel chains, and booking and transportation providers based in developed countries.

The internet offers a chance to change that pattern. Tourism providers in developing countries can access customers directly. Their websites can offer authentic flavour, unique insights and specialised local knowledge that a big international provider cannot.
The challenge for developing countries is to reorganise tourism services so that they can benefit from ICT. Well-designed websites can allow local companies to offer tourists a full package, including reservations, flights and currency exchange. That way the profits can stay at home and contribute to job growth and economic development.

Developing countries now attract 35 per cent of international travellers each year and are starting to develop e-tourism strategies. Today, 24 of the least developed countries (LDCs), for example, have tourism websites. Unfortunately, these are largely ‘information windows’. They do not reflect the wealth of local tourism producers and do not allow booking and payment.

As internet shopping by tourists increases, governments and national and regional tourism organisations in poorer countries need to focus on spreading internet access and setting up linked websites that can cover the entire ‘value chain’ behind international travel. A major challenge will be overcoming domestic bottlenecks in technology, payments, telecommunications, and computer adoption and use.

7.2 Explain the concept of the digital divide.

7.2.1 A further concern relates to access by citizens of developing countries to the benefits of the internet for purposes of travel, tourism and hospitality. The vast majority of people in poorer countries face issues relating to the ‘digital divide’. The term ‘digital divide’ refers to the gap between those with regular, effective access to digital and information technology, and those without this access. It encompasses both physical access to technology hardware and, more broadly, skills and resources which allow for its use. Groups often discussed in the context of a digital divide include socioeconomic (rich/poor), racial, or geographical (urban/rural). The term ‘global digital divide’ refers to differences in technology access between countries.

In developing countries, the global digital divide is a major challenge and is a clear barrier to active participation in increased travel access.

7.3 Explain issues with respect to security in ICT information transfer.

7.3.1 Security in ICT information transfer, e.g. identity fraud, payment problems.
### Learning Outcome 8
The learner will: Understand the potential further applications of new and emerging information technologies within the tourism sector.

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<td><strong>8.1 Recognise the constant change environment within IT in the context of TTH.</strong></td>
<td><strong>8.1.1</strong> The development and application of ICT through the economy and society is, as yet, at an early stage. It is still only possible to take an educated guess as to the medium- and long-term effects.</td>
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<tr>
<td><strong>8.2 Identify key likely developments in ICT and their potential for impact in TTH.</strong></td>
<td><strong>8.2.1</strong> ICT is pervasive and enabling and, by any measure, is advancing rapidly in terms of power, performance and affordability. These trends are unlikely to change in the short-term. ICT drives the advance of other new technologies, whose impacts need to be assessed separately. Radical new technologies such as biotechnology have the potential to entirely change the current terms of reference of the links between ICT, the economy, society and the environment.</td>
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<td><strong>8.3 Discuss the potential of low cost ICT for micro and small TTH operations.</strong></td>
<td><strong>8.3.1</strong> There is likely to be increasing use made of ‘informal’ internet sites with a focus on aspects of travel, tourism and hospitality. This may threaten formal sites but it is likely that companies will increasingly participate in the informal environment alongside their mainstream systems.</td>
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**Assessment:**
- Assessment method: written examination (unless otherwise stated).
- Written examinations are of three hours’ duration.
- All learning outcomes will be assessed.

**Recommended Reading:**
Please refer to the Tuition Resources section of the Members Area of the ABE website ([www.abeuk.com](http://www.abeuk.com)) for the recommended reading for this subject.