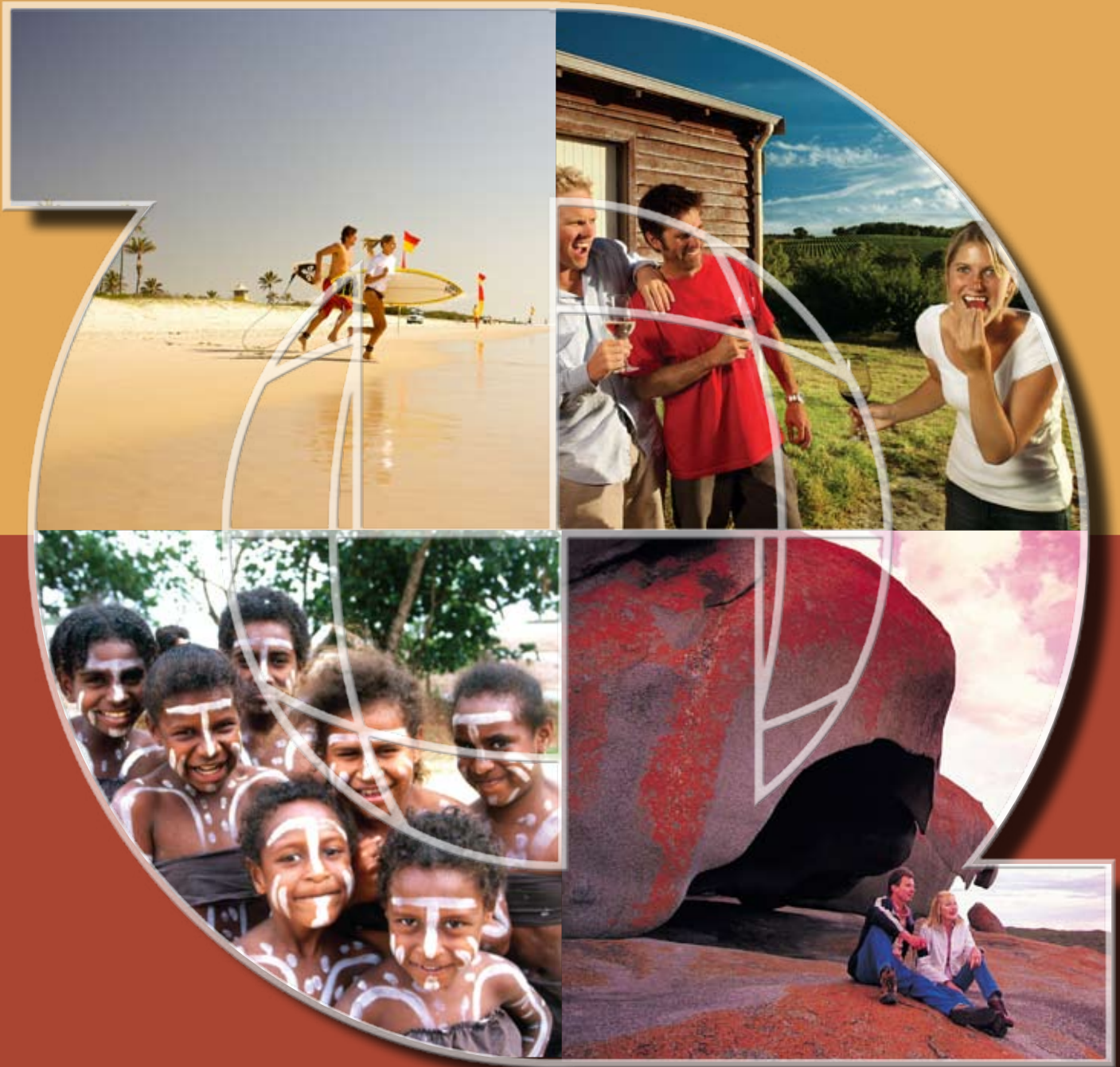


HELPING TOURISM SMES PLAN AND IMPLEMENT INFORMATION AND COMMUNICATION TECHNOLOGY



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Abstract

This study has developed and tested a web based Information and Communication Technology (ICT) skills capability toolkit consisting of two modules. The first module consists of 37 lessons on Internet strategy, website design and optimisation based on material developed by the ATDW. The second module is a questionnaire that allows the ICT skills profile of a region to be assessed.

In developing this toolkit, a literature review was undertaken of the use of ICTs by SMTEs and prior methods of measuring ICT skills. This literature review indicated that the scope of technology that is available to SMTEs is broad and changing rapidly. The technology is also complex and SMTE managers often do not have enough time or money to adopt the technology. The prior literature also highlights a number of different approaches to assessing the skills of SMTEs dependent on the outcome required. If an assessment of the ICT skills capability of a region or country is required then a broad e-readiness questionnaire may be suitable. Alternatively, it may be that a self-assessment linked to training modules is more suitable as it provides a way for operators to improve their skills directly. The literature review also highlighted that ICT related to promotion and marketing is important for a majority of SMTE operators and that there was a 'usual' development path for web related SMTE marketing. A series of face-to-face interviews with 41 SMTEs were conducted and these provided information of the existing and likely ICT developments, sources of competitive advantage and best practice.

Glossary

ICT	Information and Communication Technology
SMTE	Small to Medium Tourism Enterprises
SME	Small to Medium Enterprises
WWW	World Wide Web

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SUMMARY

Objectives of Study

The development of a toolkit designed to guide SMTEs in planning for and implementing ICT within their enterprises. Outcomes of this project will be a toolkit that allows operators to identify:

- ICT technology available;
- advantages of introducing various ICT technologies for SMTEs;
- best practice implementation of ICT in various types of SMTEs;
- the ICT capabilities of themselves or their staff;
- some recommendations for ICT development pathways.

Methodology

This research involves methodology as follows:

(i) Review of literature of ICTs in SMEs and SMTEs concerning:

- existing and likely developments
- competitive advantage and profitability
- skills capabilities assessment tools.

(ii) Assessment of ICTs in SMTEs—existing and likely developments based on interviews with experienced SMTEs.

(iii) Assessment of ICT contribution to competitive advantage and profitability of SMTEs based on identification of ten potential best practice cases in various tourism sectors (one in each of hotels, tours, attractions, events, restaurants in SA and Victoria).

(iv) Assessment of ICTs in SMTEs and their aspirations based on interviews with naive SMTEs (five in each of Victoria and SA) to determine their perceived views of the usefulness of, ease of use of and intention to use ICTs.

(v) Final report.

Key Findings

The key findings are discussed below under each of the main sections of the report.

Literature review

A review of the literature (Chapter 1) indicates that there are difficulties in developing a toolkit that is comprehensive of all existing and potential ICT and all types of operators. For this reason it was considered necessary to, in some way, delimit the scope of the toolkit and the focus chosen was e-marketing. The literature review also highlights a large number of prior models of competitive advantage and profitability. It also highlighted the complexity of the task of implementing ICT for time poor managers of Small to Medium Tourism Enterprises (SMTEs) and thus the importance of considering skills and motivation in improving ICT uptake in SMTEs.

Two dimensions of assessment tools have been identified. These are purpose and scope. The various assessment types described here have three basic purposes: description, diagnosis, or prescription. Descriptive tools explain or describe what happened. Diagnostic tools identify problem areas, but do not indicate how to address the problems. Prescriptive tools urge action along a clearly defined path. Furthermore, the scope of the assessment can relate to general ICT skills or focus on a specific topic or area and the assessment tools can be targeted at improving the knowledge of the policy maker or of the individual operator. In this study the scope examined is specific and is related to the evaluation of website marketing skills. Evaluation tools were developed that may be diagnostic and/or prescriptive and useful for self-assessment and policy diagnostics.

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Assessment of ICTs in SMTEs

In Chapter 2 the findings from a study of 41 metropolitan and rural businesses in South Australia and Victoria are presented. Most of the businesses that participated in the study had been in operation for three or more years and had been using ICTs for as long as they had been in businesses. The businesses were asked to identify their primary business focus (refer Table 10). Growth (43%) and lifestyle (33%) were seen as the main business foci. Some 13 businesses being classified as having *upper level* ICT skills, 20 businesses classified as *middle level* and eight businesses being classified at the *lower level*. Those participants that had been using ICTs for longer tended to be classified in the *middle* and *upper levels*.

The majority of businesses reported that they had either interactive websites (49%) or information-based websites (42%).

Assessment of benefits

In Chapter 3, most businesses identified that the benefits they received from ICT use are *increased efficiency and improved communications*. The most frequently identified areas of ICT use in the participating SMTEs were marketing, customer service and finance/accounting. Most businesses sourced their ICT skills through a range of areas; the more popular areas being consultants, ‘other’ sources (previous work experience, product manuals and suppliers, other businesses/competitors and associations and the internet), friends, training courses and family. In relation to having an ICT replacement strategy, 28% of all participants suggested that they replaced their ICTs infrequently or never. In relation to recovery plans, around three in four businesses that participated indicated that they had recovery plans in case something should go amiss with their ICTs.

Assessment of innovation and best practices

In Chapter 4, of the 41 businesses that participated in the study, 16 were identified as having innovative ICT practices. Most of the businesses with innovative uses of ICTs, also reported having interactive websites (62%). Most of these had online bookings (which we did *not* classify as an innovative use in itself). Of the 41 businesses that participated in the study, 12 were identified as exhibiting ‘best’ ICT practice. This classification was given because they performed well in the following areas having at least a reasonable level of ICT skills, reviewing their ICTs on a regular basis, having a recovery plan if their ICTs failed and evaluating the success of their ICTs.

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Chapter 1

REVIEW OF LITERATURE—ICTS IN SMTEs

Over the past ten years, it is evident that one of the main developments within the tourism and hospitality sectors has been the rapid growth in the use of Information and Communication Technology (ICT). The travel industry provides a service that relies on visitors geographically distant from the travel destination receiving information and making bookings for their travel. Further it involves a number of suppliers providing components of the overall trip as well as having a complex distribution system. This dependence on remote provision of information from numerous suppliers as well as the interest that visitors have in planning their trips has meant that tourism was one of the first industries to be profoundly affected by ICT developments. Tourism firms are increasingly dependent on business sourced or influenced by use of ICT and are also affected by competition engendered by the availability of ICTs such as the Internet and World Wide Web (WWW). It is clear that ICTs are of paramount importance to the world of tourism and hospitality (Baggio 2006).

The introduction of ICT has affected all the players in the tourism sector. For *potential travellers* new technologies have revolutionised how they research travel options, compare prices and book their travel. For *travellers on their trip* the availability of information and contact with their home through the Internet, the use of mobile phones and geographic location services based on Global Positioning Satellites (GPS) has increased the convenience, pleasure and security of travel. For *tourism operators*, ICTs have affected the way they market their products as well as offering opportunities to change the way they operate (Buhalis and Deimezi 2004). ICT puts marketing opportunities in the hands of each and every business owner, thus increasing not only the offer to the consumer but the competition amongst the industry and destinations. For *tourism intermediaries* such as travel agents and wholesalers, the introduction of ICTs have changed the nature of competition, led to new business models such as the offering of last minute ‘distressed stock’ over the WWW and the ability for consumers to compare prices and book, as well as creating new opportunities for relationship marketing. For *tourism organisations* at the local, state and national level, it has meant a change in the skills required of staff, their promotion and marketing techniques, their customer research methods, a change in the services offered to include ICT training and education for operators and the development of cooperative data services such as that provided by the Australian Tourism Data Warehouse (ATDW). For *governments*, ICT has raised important policy issues related to taxation and legal jurisdiction, amongst other areas.

The focus of this research is the effect of ICT on Small to Medium Tourism Enterprises (SMTEs). ICT has had numerous effects on each of the groups listed above and each group has had particular problems and issues in dealing with the impact of ICT. In particular, SMTEs have been chosen for examination in this study as they firstly comprise a large proportion of all tourism operators in Australia and contribute significantly to the success of regional economies. Secondly SMTEs often have inadequate skills and insufficient resources (both money and time) to respond to ICT adequately. As will be discussed below, this makes SMTEs vulnerable to the changes wrought by ICT.

In the following section we firstly define ICT and then examine the various ICT developments affecting SMTEs in the immediate future.

Existing and Likely Developments in ICT

Rapid technological development paradoxically means that the more powerful and complex the ICTs become, the more affordable, user-friendly they become, enabling more people and organisations to take advantage. Technological innovations in hardware, software, and netware have been propelling a wide range of changes in Information Systems (IS). ICTs convergence effectively integrates the entire range of hardware, software, groupware, netware, and human-ware and blurs the boundaries between equipment and software (Buhalis and Law 2008, p. 614).

Development of a list of existing and likely developments in ICT is a daunting task as the rapid growth of technology and a dynamic business environment is leading to a rapidly evolving ICT environment. Further, even if we were able to list them, ICT developments are difficult to categorise as they blur into one another. Here a number of the basic building blocks that support ICT developments are listed. These developments include fast and cheap computers with the ability to store massive amounts of data, the fast interconnection infrastructure

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provided by the Internet optical cables that link countries and continents together, the availability of homes and businesses to access the Internet through data connections and Internet Service Providers (ISPs). The development of the WWW has increased the usability of this technology and led to increased use. Development of software to make use of these technologies has led to availability and use of email, and the widespread use of websites for information and bookings and later accessing multimedia, social networking, and other uses.

So how can we define ICT and what is its scope. *ICT* is an umbrella term that includes all technologies for the manipulation and communication of information (Wikipedia 2009). One early attempt to examine the extent and implications of tourism ICT was developed by Tremblay (2000) who developed a fourfold typology shown in Figure 1.

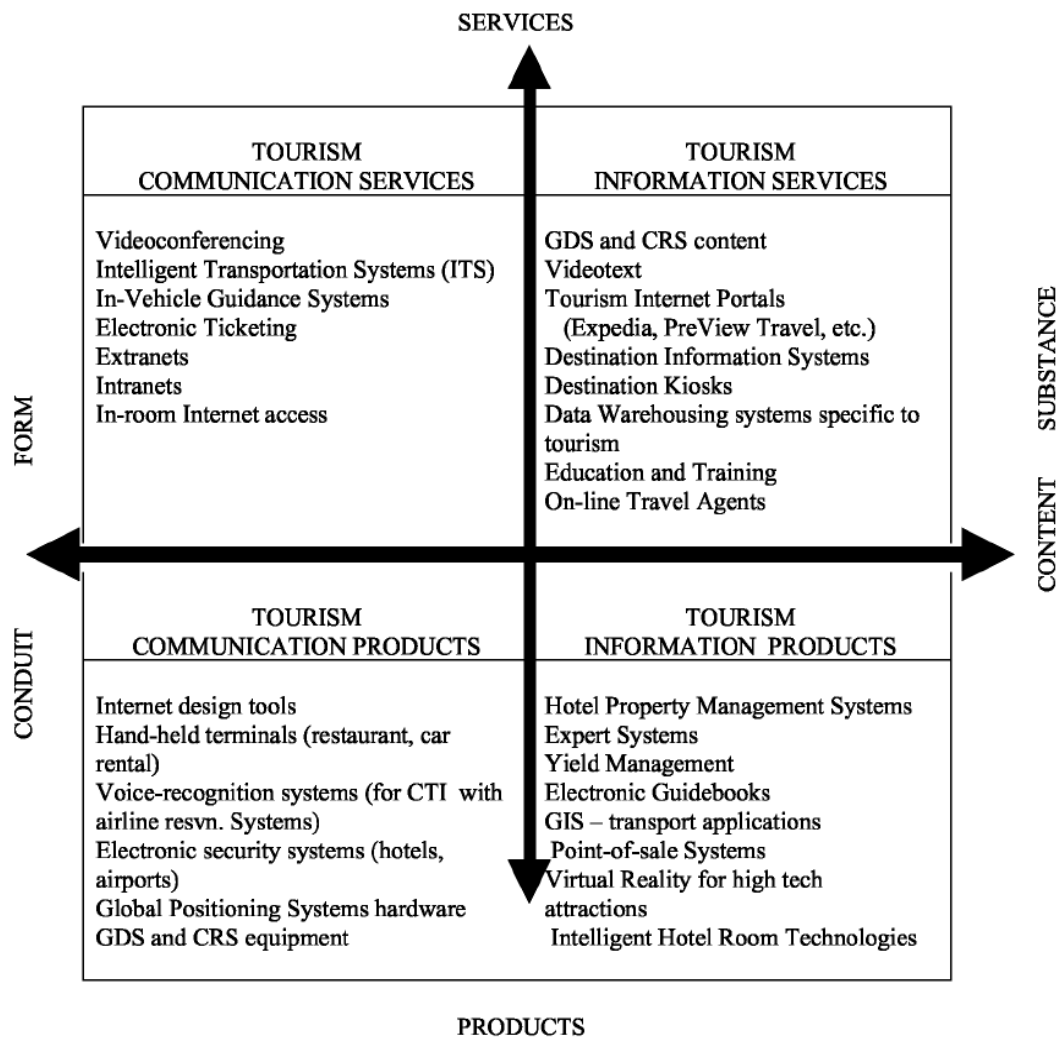


Figure 1: A map of tourism ICT technologies

Source: Tremblay and Sheldon (Tremblay and Sheldon 2000, p. 349)

Consideration of this list of ICTs suggests that the various technologies may not be equally applicable to all types of operators. Thus hand held terminals for data entry may be useful for restaurants and car rental companies but not particularly useful for small Bed and Breakfast establishments. Similarly, virtual reality applications may be useful for large attractions but not affordable (at the moment) for smaller attractions. As will be discussed below there are marked differences in the potential and actual value that SMTEs see in the various ICT. *This finding suggests that development of a toolkit for SMTEs in use of ICT is a large task that to be comprehensive would require an understanding of the ICT needs of each type of tourism business and development of a toolkit module for that type of business. This finding will be discussed further below.*

In addition to a wide range of ICTs currently available there are numerous indications that ICT is continuing to evolve rapidly. For example Buhalis and Law (2008) provides a summary of more recent developments including *interoperability and ontology, multimedia, mobile and wireless technologies, web design in both*

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functionality and usability and proposes the future development of ambient intelligence. In a study for the STCRC, Sharda et.al. (2006) discusses a number of leading edge ICT developments such as the need for an Australian tourism ontology, development of location-based systems and improvements in tourism portals, wireless technologies and usability engineering. *In terms of developing a toolkit for SMTEs, this suggests that anticipating the implementation of these developments suitable for SMTE's will be difficult.*

The above indicates that there would be difficulties in developing a toolkit that comprehensively covers all existing and potential ICT and all types of operators. For this reason it is necessary to delimit the scope of the toolkit. The scope of the toolkit chosen here is existing ICT in common usage by larger operators and that could be transferred to SMTEs. In addition the need for SMTEs to be willing and able to implement the technology led to a choice of ICT that some SMTEs had already been able to implement.

The choice of scope was supported by research into two areas. Firstly, prior researchers have proposed a 'normal path' for ICT adoption by SMTEs. This is the e-adoption ladder (D Buhalis and Deimezi 2004) as shown in Figure 2. Secondly, research by McGrath (McGrath 2006) indicates that there is a major or partial gap by all types of tourism services in the effective usage of the Internet.

The advent of the Internet has altered each and every main component of the traditional tourism system. In today's e-marketplace, this system had to undergo an e-facelift to be able to compete. The traveller now e-researches; communication has become e-communication; destination communities have had to enter the World Wide Web; and even non-tourism related externalities had to follow the e-tourism trend in order to be able to deal with their tourism partners. One of the main challenges that Baggio (2006) highlighted is the one of positioning and visibility. For instance, his research on Italian travel agents demonstrated that its visibility on the Internet—especially in Internet-intensive regions—is a key business success factor: if not visible and considered useful by the consumer, the agent will not perform well.

It is therefore fair to say that the combination of the visibility on the WWW based on keyword search by the Internet user and the quality of the e-offer could well make or break a tourism business (Baggio 2006).

A second point with regards to e-tourism is the fast development of real-time online bookings. Customers are able to bypass travel agents and tour operators and book directly at the source. This has forced the intermediaries to review their business process and to redefine their activities.

For these reasons it was determined to focus the toolkit on improving the Internet capability of SMTEs. In terms of the e-adoption ladder this equated to a focus on steps 1–5. Thus the aim for this toolkit will be to improve the level of online presence of SMTEs. This ensures that the toolkit will be aimed at an area of major need.

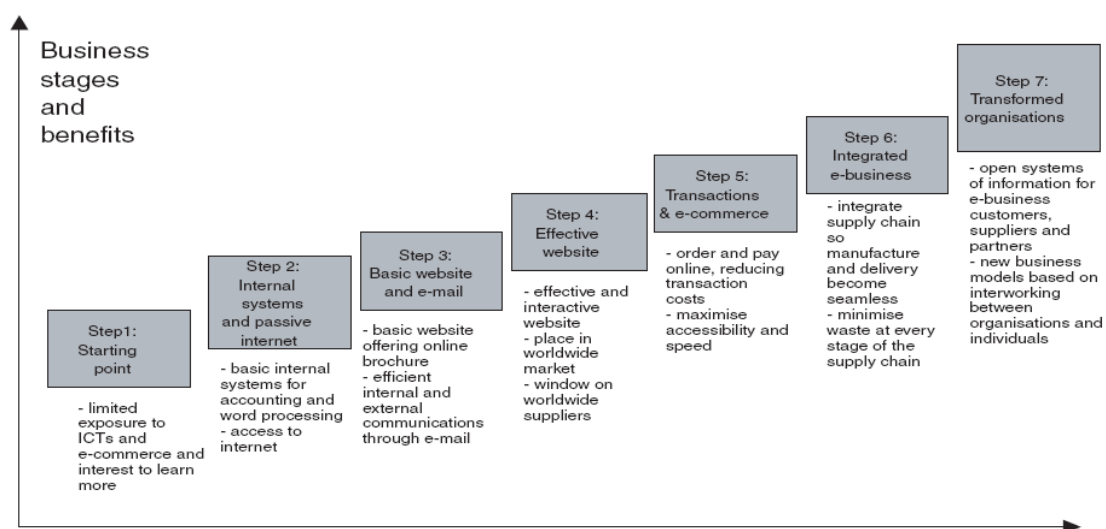


Figure 2: The e-adoption ladder

Source: (Buhalis and Deimezi 2004)

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Table 1: ICT applications

Social networking	Dwivedi, Shibu and Venkatesh (2007) provides an overview of social software practices including blogs, message boards and consumer review sites.
Tours using mobiles	Mobile devices are increasingly being used by tourists as electronic personal tour guides—see Kim and Schliesser (2007).
Online auctions	See Ho (2008).
Peer-to-peer networking	Peer-to-peer networking (sometimes called P2P) is a technique for efficiently sharing files (music, videos, or text) either over the Internet or within a closed set of users. Unlike the traditional method of storing a file on one machine (which can become a bottleneck if many people try to access it at once) P2P distributes files across many machines, often those of the users themselves.
Mash-ups	Mash-ups are aggregations of content from different online sources to create a new service. An example of this would be pulling apartment listings from one site and plotting them on a Google map to show where the apartments are located.
Collaborative publishing	Collaborative publishing systems are platforms that attempt to tap the expertise of a group rather than an individual to make decision. They also allow many authors to contribute to an online document. A well-known example of this is Wikipedia, part of the Wikis family. In the travel and tourism industry, one of the key player is Trip advisor (www.tripadvisor.com)
Content subscription systems	Content subscription systems such as RSS feeds. RSS (Really Simple Syndication) allows people to subscribe to online distributions of news, blogs, podcasts, or other information. Feedburner is the main tool used to create feeds. The travel marketer can develop as many RSS feeds as required from each site of relevance and users can subscribe to them, accessing them via a customisable homepage that resembles an email inbox.
Social network sites	Social media platforms such as Facebook, MySpace, and LinkedIn allow the user to connect with friends and like-minded individuals, often on the form of online communities and to develop a network that can be used for social and or business purposes. An instance of this in the travel and tourism industry is the T-list community on Facebook where online marketing professionals specialising on the travel and tourism industry form a group and exchange ideas and best practices. This group was originally formed by a well-known tourism marketing blogger.
Blogs	Blogs (short for weB LOGS) are online journals or diaries hosted on a web server. They are now used as both an education and marketing tool, allowing better positioning in search engine through linking strategies and keyword optimisation. Blog content is distributed to an unlimited number of websites via syndication (RSS, Search engines) and online communities. Sources estimated 200 million blogs in existence in 2006; Technorati blog tracking site tracked 55 million blogs in Dec 06 and estimates that the number of blogs has doubled approximately every 6 months in the last 2 years.

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Search engines	<p>Search engines are the ‘information crawlers’ of the 21st century. They arrange the information and present it in a ready to be read format. Search engines are now reaching a use almost as high as email with over 60 million US Internet users relying on them on a daily basis. In the Web 2.0 era, Search Engine Optimisation and Search Engine Marketing are the disciplines that solely focus on working with search engines to promote a website, blog or other user generated content over the Internet. The key player in the search industry is Google—referencing half of the 200 billion existing numbers of web pages on the Internet. Even though Google is by far the most used engine with 50% of the searches, it is being followed by competitors such as Yahoo! Search, MSN / Live Search, and others (Metrics 2.0 Sizing web search and search marketing 2007)</p>
Podcasting	<p>Podcasts are audio or video recordings—a multimedia form of a blog or other content. They are generated by Internet users and they are often distributed through an aggregator, such as iTunes. The advantage of podcasts is that they are downloadable onto a mobile device and allow the user to listen or view them at his own convenience, whilst driving for instance.</p> <p>See Feifan Xie and Lew (2008).</p>
VOIP	<p>The ever-increasing connection speeds have allowed for a new form of telephone technology, VoIP (Voice over Internet Protocol). VoIP has been initiated by Internet applications like Skype, allowing to telephone for free from computer to computer.</p>
Wireless and Mobile Platforms	<p>Wireless is likely to be the next major event in the history of technology. Its application in tourism industry is also likely to increase in future. Mobile services shall continue to be an important channel of information and tourism services distribution for both providers and consumers. Future mobiles might decrease in size, weight and price and are likely to increase in power, storage, connectivity, position and capabilities. Electronic personal guide might be in frequent usage. Besides SMS (short message services), WAP (Wireless Application Protocol) standard for accessing the Internet with wireless devices like mobile phones should be increased. GNSS (Global Navigation Satellite System), which gives the position, and GPRS (General Packet Radio Services) enabled mobiles which can handle larger amounts of data than the GSM network shall be useful in tourism industry. W-LAN (Wireless Local Area Networks) and Blue tooth, which gives wireless access at short distance about few meters, can be useful too.</p> <p>See (Langelund 2007)</p>
Relationship marketing	<p>Collaborative Filtering, popularised by Amazon.com, makes recommendations based on users' shared preferences. For example, if you bought a book about fly fishing and we know that many other people who bought that book also purchased biographies of Teddy Roosevelt, then we'll recommend that you buy a book on Teddy Roosevelt, too. (Vendors: Net Perceptions, Macromedia).</p> <p>Data Mining/Analytics uses data analysis, including online traffic patterns, past purchases, customer records, etc. to make predictions of future customer behaviour. (Vendors: E.Piphany, NetGenesis).</p> <p>Rules-Based Engines personalise content by automating business rules into intelligent self-service products. Customers are served up content only if it is relevant to them based on their unique preferences or specific needs. (Vendors: BroadVision, Brokat Technologies, VacationCoach).</p>
Dynamic packaging	<p>Travel agents have been highly affected by changes in tourism industry by reduced commissions. They therefore look for new ways to increase their margins: e.g. acquiring tools to dynamically package their clients' holiday requirements. Examples of dynamic packaging in the travel and tourism industry are Expedia, Travelocity See (Cardoso and Lange 2007)</p>

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Interoperability	Interoperability enables partners to interact electronically with each other by the most convenient method and to deliver the right information at the right time to the right user at the right cost. Using an ontology that represents a set of concepts within a domain and the relationships between those concepts a mediator software system (such as Harmonise) effectively ‘translates’ partners’ data and allows them to communicate electronically.
Ontology	An ontology-based eTourism Planner-AuSTO that enables users to create an itinerary in one single application of this intelligent tool that builds on semantic web technologies.
Internet Forums	<p>An Internet forum is ‘an online facility that provides local businesses with an Internet portal using the locale, or an industry particular to the locale, as the unique selling point, or common brand’ (Deakins, Mochrie and Galloway 2004, p. 250). This acts as an anchor providing more of a profile to entice visitors to the website that represents the location or destination.</p> <p>Deakins, Mochrie and Galloway (2004) have examined how the development of Internet-based virtual business forums assists tourist operators in rural areas. Whilst studies have identified the benefits of the use of Internet amongst SMTEs in such rural and regional areas, these authors argue that there is little evidence to suggest that this is being converted into action. Yet the Internet offers the potential to overcome the disadvantages that remote locations raise. Impediments to SMTE adoption of e-commerce need to be revisited and addressed to encourage the use of IT and to seek to reduce the impact of the digital divide. By developing a strategic approach that adopts a clear identity focusing on the destination and its features encapsulated in an integrated website, the forum concept has significant merit with respect to regional tourist destinations.</p>
Linking destination websites	In their study Palmer and McCole (2000) examine independent businesses with unique resource locators (URLs) located in one region. They then followed links out of those sites to identify the extent to which such sites were linked. Little evidence was found to show the use of websites for cooperative tourism in the study area. They concluded there was a lack of cooperative initiatives between tourist operators in the region of interest. This study is of interest since lessons can be learned for consideration in other regions to promote tourist destinations.

Conclusion

The scope of ICTs is very broad and includes use of mobile phones; hand held mobile computers, Internet websites, global positioning systems and so on. It was also found that particular technologies are most applicable to certain sectors. This work highlighted a complex relationship between operators, their stage of ICT development, and the tourism sector in which they operate and the next most useful technology they should adopt. One solution to this complexity for the toolkit is to focus the project in a particular area of technology and possibly one particular sector. This means that the toolkit would be designed to do one task and then over time the scope of the toolkit could be expanded.

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Competitive advantage and profitability

In general, businesses, and their competitors, are continually looking for ways to increase the level of value provided to customers and shareholders. However, this may not always be the case for SMEs (Feurer and Chaharbaghi 1994). A central platform in business strategy is the gaining of competitive advantage.

Competitive advantage occurs when a business gains a lead on its competitors in the marketplace. The pursuit of competitive advantage occurs when a business attempts to disturb, enhance or limit the competitive forces at work in its own industry sector (Earl 1989). In this section we are concerned with how this occurs through the use of information and communications technologies (ICTs).

Ma (2004) proposed a framework: the 4C's framework, to identify sources of global competitive advantage. The framework identifies four major groups of competitive advantage. These are:

- Creation and innovation. Businesses can gain competitive advantage by creating new products (innovating), by being efficient, by building organisational learning and having creative human resource practices.
- Competition. Competitive advantage can be gained by using marketing strategies such as looking for first-mover advantage.
- Cooperation. This involves collaborations with other businesses, to (for instance) gain access to customers, resources and/or knowledge.
- Co-option. This is an attempt to align another party's interests with those of the business, for example, where a business might lobby government to gain access to particular trade areas or contracts.

Although the various aspects of competitive advantage involving the use of ICTs will be discussed later, it is useful to introduce some of the concepts related to competitive advantage in this section. One important concept relevant to competitive advantage in a business is how long it can be sustained. Sustainability is a measure, which describes the potential of an organisation to maintain or improve its competitive position in the eyes of its customers and shareholders while having the ability to act and react within a changing competitive environment. Competitive advantage can only be sustained as long as this potential remains high (Feurer and Chaharbaghi 1994: 51–52).

New entrants to an industry can be a considerable threat because they bring a desire to gain market share, new capacity and sometimes-substantial resources. The success of their entry can depend upon a number of factors, including the barriers to entry (refer next section) and how existing competitors react to the new intruder. New entrants may consider their decision to enter the industry based upon how existing businesses have previously dealt with new entrants and whether the industry is able to sustain another entrant (Porter 1979).

A barrier to entry can make it difficult for new entrants to gain entry into an industry. Porter (1979) identified six sources of barriers to entry:

- Economies of scale. The nature of the industry may mean that new entrants have to invest heavily to match existing businesses in production, research, marketing and/or service.
- Product differentiation. New entrants are required to invest large amounts of resources to overcome customer loyalty to existing products.
- Capital requirements. The need to invest significant financial resources to compete, especially in initial costs such as marketing.
- Cost disadvantages. This relates to the need to invest in the 'learning curve'—having to learn lessons like where the best place to locate is, where to source the best raw materials and so forth.
- Access to distribution channels. These need to be established.
- Government policy. This can be a significant barrier if the industry is highly regulated.

Customers are locked-in to purchase from a particular business when they are constrained by their previous choices. Costs are incurred when they attempt to switch to another business (Verona and Prandelli 2002). The common term for these costs is 'switching costs'.

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Approaches to business strategy

Critical success factors

John Rockart introduced the concept of critical success factors (CSFs) in 1979. CSFs are used to identify factors that are critical to the success of a business operation. Critical success factors are the limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the business. They are the few key areas where 'things must go right' for the business to flourish. If the results in these areas are not adequate, the efforts for the period will be less than desired. As a result, the critical success factors are areas of activity that should receive constant and careful attention from management. The current status of performance in each area should be continually measured, and that information should be made available to decision makers. CSFs can be used to identify areas of the organisation where the effective use of IT could help to ensure its 'successful competitive performance'. The method encourages executives to identify what is important to them in their business, and outlines a number of steps to be followed in the identification of CSFs (Alter 1992):

1. Identify the primary mission of the organisation and the objectives that define satisfactory overall performance for the organisation
2. Identify critical success factors
3. For each CSF, identify pertinent indicators or measures of performance that can be tracked
4. Develop systems for collecting and using this information.

ICTs could be effectively used in the final step to identify the types of systems that are needed most by the organisation.

SWOT analysis

The SWOT analysis has been traditionally used in the marketing or economics areas of the business. The term SWOT is an acronym for Strengths, Weaknesses, Opportunities and Threats. An analysis is performed on the various areas of the organisation to identify current or potential strengths and weaknesses when compared with competitors in particular. From this analysis, the organisation identifies actual or potential opportunities to gain strategic advantage or threats to the organisation's survival. The analysis of the strengths and weaknesses of the organisation and its competitors could include the relative size and scope of the business, the resources at its disposal, employee skill levels, type of customers (as well as their loyalties and behaviour), the images and brand of the business, its ability to serve the market and ability to control distribution and resellers. Once an actual or perceived opportunity or threat has been identified, the organisation can examine ways in which IT can be applied in a proactive or reactive manner. Actions taken by the organisation to take advantage of an opportunity are proactive. Actions taken by the organisation to combat a threat are reactive. One of the advantages of the SWOT analysis from the viewpoint of this book is that it requires an investigation of internal and external factors affecting the business (Kotler et al. 1989).

Competitive advantage and ICTs

How can an organisation add value to its products or services? Porter and Millar (1985) mention three ways that organisations can compete with their products or services (these are known as the three generic strategies for improving competitiveness):

- be the low cost producer. In this instance an organisation produces a product or service of similar quality to competitors, but at a lower cost
- produce a unique or differentiated product. This involves providing value in a product or service that a competitor cannot provide or match
- provide a product or service that meets the requirements of a specialised market. A business identifies a particular niche market for its products and/or services. The advantage of targeting such a market is that there may be less competition than the organisation is currently experiencing in the more 'general' market

Porter (2001) suggests that Internet technologies provide even greater opportunities for businesses to provide distinct offerings.

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Strategic potential for ICTs

Ives and Mason (1990) suggested that there were three ways in which ICTs could be used to improve the customer service strategy of a business. These are:

- Personalised service. Central to this notion is the ability to identify repeat customers and their particular characteristics and needs.
- Augmented service. This involves a differentiation strategy.
- Transformed products. More recently, Schlenker and Crocker (2003) have suggested that ICTs can be used to help redesign and (therefore) improve business processes. One of the reasons that small businesses have not taken advantage of Internet technologies to a greater extent is that they are more comfortable with designing new products or services than in changing existing business processes to develop new ways to produce existing products.

Ahituv and Neumann (1990) have identified three factors that influence the likelihood of strategic IT potential in an organisation:

- The presence of significant information content in key relationships between buyers and sellers. IT (and communications technology) is obviously suited to the transfer of such information. It can provide benefits in the areas of cost, speed of data transfer and improvements in data entry errors.
- The presence of competitive pressures in the industry (such as deregulation, IT innovation, or competition intensity). This forces industry participants to find ways of gaining competitive advantage by closely examining the potential of IT as a part of their constant investigations of all parts of their business to try to gain an edge on competitors.
- Limited product or service life (such as unsold airline seats or vacant hotel rooms). The importance of having effective and flexible systems to manage these effectively cannot be overstated, generally offering the organisations the opportunity to package the price of their products and/or services to be lower during off peak periods to maximise sales.

Customer resource life cycle

Ives and Learmonth (1987) suggest that ICTs can be used to improve customer service by targeting the customer resource life cycle (CRLC), where ICTs can be used to target different aspects of customer service:

- Phase One: Requirements. This is where a customer recognises a need for a resource and begins to specify what is required. ICTs can help by helping to specify these requirements.
- Phase Two: Acquisition. This involves activities such as sourcing, ordering, paying for and receiving delivery of the resources. ICTs can assist in a number of these activities.
- Phase Three: Stewardship. This is where ICTs are used to help the customer use the resource, or to help with after-purchase problems.
- Phase Four: Retirement. This is where ICTs can assist in accounting for the use of the resources (especially in rapid and accurate charging for services rendered) or even help to dispose of them where they are no longer needed.

These days it is more difficult to sustain competitive advantage solely on the value offered by products or services. Businesses are starting to integrate information and other services into their product offerings and ICTs can be employed to help to do this (Schlenker and Crocker 2003).

Strategies for SMEs

In regards to the raw numbers of businesses, SMEs (Small to Medium sized Enterprises) make up the vast majority of enterprises worldwide (for instance, 98% of all businesses in Europe). More than 90% of Australian tourism businesses are SMEs, with 40% of these being regional or rural (Jackson and Murphy 2006). The sector is characterised by a number of special features (Schlenker and Crocker 2003):

- A majority of them are primarily concerned with 'quality of life'.
- A majority of them are not a source growth—either in relation to their number of employees or in annual turnover.
- A majority of them do not have one or more of the major processes that are seen to be core to the tasks of 'doing business' (such as product conception, manufacturing, sales, delivery and post sales service). As such, they are required to other businesses that can supply the missing processes.

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Thus, it may often be assumed that SMEs will wish to grow their business. In fact, the reverse may be the case.

Barba-Sánchez et al (2007) suggest that three key elements need to be in place to allow the adequate introduction of ICTs into SMEs (:107):

- ICT solutions should be introduced gradually
- adequate ICT training and support should be sourced
- a full awareness of the potential of ICTs should be developed.

Jeffcoate et al (2002) identified that research into the use of the Internet by SMEs was moving towards helping them to identify the types of structures and strategies that they would need to effectively analyse their business situation and determine suitable strategies from there. One way that they suggest that this could be carried out is to use Porter's five competitive forces model (see Figure 4) to assist them to analyse the forces that impact on them. They conducted a study of 46 SMEs in 1999, after which they suggested that SMEs could benchmark their performance against a series of predetermined CSFs in the following manner:

- identify what the attitude of the business is to growth
- establish a suitable generic business strategy and then determine a series of objectives to match that strategy
- identify a set of relevant CSFs that cannot be matched against each objective.

Jeffcoate et al (2002) suggest that SMEs should analyse their own strengths and weaknesses on a regular basis.

Strategies for SMTEs

Fodor and Wethner (2004) highlight a number of important aspects in relation to tourism:

- The tourism industry is leading the way in relation to business-to-consumer (B2C) applications as 'users are becoming their own travel agents and are building their travel packages themselves' (:11).
- Tourism is a cross-industry sector, with related industries including culture, sports and agriculture. Most of the participants are SMEs, which means that there is a large variety of technologies and architectures that may lead to difficulties with interoperability when they try to share information or merge services. Many of these are regional. In fact, tourism is sometimes viewed as being one of the saviours of regional areas (Jackson and Murphy 2006).
- The tourism product is perishable—that is, if it is not used it cannot be stored and then used again. For instance, a hotel room not sold on a particular night represents lost income. The 'product' represents a series of basic products, generally coordinated by an intermediary. Thus, the interfaces which link these products need to consider customer needs, prices and product distribution channels.

The vast majority of tourism enterprises around the globe can be classified as small and medium-sized tourism enterprises (Liu 2000). In general 70–80 per cent of Australian tourism business are classed as small, with a high proportion located in regional areas (Morrison and King 2002)—many being predominately family run businesses (Getz and Carlsen 2005). Indeed, a number of entrepreneurs, particularly sole proprietors and families are drawn to tourism for lifestyle reasons, the industry being relatively easy to break into as it does not really requiring specific or previous experience, nor a high level of education (Morrison and King 2002; Getz and Carlsen 2005). Arguably, the perceived attractive lifestyle associated with many facets of the tourism industry rarely becomes reality with many businesses suffering from financial and resource poverty (Morrison and King 2002).

Tourism is an industry dominated by information. Tourism decision-making is based upon information from a number of different sources, such as television, brochures, word-of-mouth and the Internet (Werthner and Ricci 2004). It has been suggested that the tourism industry and the Internet are well suited to each other, given that tourism is an information-based and information-intensive sector (Werthner and Ricci 2004). Indeed, it was suggested earlier in this literature review that when an industry has a strong information component then ICTs can be used as one possible means of gaining competitive advantage. The number of people that use the Internet to plan, and even transact their trips is increasing. In fact, the Internet 'has become one of the most successful channels used by consumers to research travel options, compare prices and make reservations' (Collins et al. 2003: 484). This change leads to a higher involvement of customers in the planning process (Buhalis 1999) of which the Internet becomes an important part. Arguably, the history of the tourism industry is one of adopting and using technologies, such as computerised reservation systems (CRS) and global distribution systems (GDS), that are integral to travel agency and airline functionality (Liu 2000).

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A study of 250 European SMTEs in the hotel sector (Collins et al. 2003) revealed that 20% of owner/managers felt that there would be a significant gap in 'know how' in relation to ICTs in the future. Although most used the Internet as a means to promote their hotel (via a website), very few of them actually had an online reservations facility. Generally, ICTs were not seen as being a major priority at the time, with more focus being placed upon areas such as human resource management.

Buhalis and Zoge (2007) interviewed 28 delegates at the Travel Distribution Conference in London in 2005 to determine what effect the Internet may have had on Porter's five competitive forces (See Figure 4) in the tourism industry. Respondents felt that rivalry amongst competitors was more intense as lower barriers to entry had allowed more competitors into the arena. The bargaining power of suppliers had increased as suppliers were able to interact more directly with customers. However, increased transparency, lower switching costs and low-price strategies enabled and encouraged customers to seek alternatives, strengthening the bargaining power of buyers. Travel intermediaries felt that their bargaining power had been reduced as consumers and suppliers have more direct access to each other and more consumers are building their own travel packages. There were no obvious themes in relation to the threat of substitute products. It was felt that consumers might possibly now have access to more non-travel products over the Internet, and perhaps that this might compete with the tourism dollar. However, some interviewees felt that the ease of booking flights and accommodation online might actually encourage consumers to book with them in preference to other leisure activities (such as going to the local theatre). As mentioned earlier, it was generally felt that barriers to entry had been lowered.

Clusters—collaboration in an industry

Jackson and Murphy (2006) propose that cluster theory can be applied to the tourism industry, particularly in regional areas.

Cluster theory involves concentrations of businesses in particular geographic regions. The theory is a blend of economic and geographic theory. Businesses (often competitors) work with each other ('co-opetition') to serve the needs of customers and attract them to (and hopefully develop) the local geographic region (Jackson and Murphy 2006). Clusters, or industry agglomerations, as they are sometimes known, were first described by Marshall in the late 1800's, as industries and institutions that formed associations and concentrated in common regions and benefited from synergistic interaction (Marshall 1966). Porter suggests that clusters are important as a source of competitive advantage in that they constitute an array of industry linkages which allow participants to offer specific technology, skills, specialised infrastructure and complementary products (Porter 1998). In this instance, competitive advantage is gained over those businesses not participating in the cluster.

One of the continual balancing acts of those involved in clusters is that of cooperation versus competition. Much is made of the role of cluster participants, who may 'normally' be in competition with each other, to work together in some areas for the greater good. For instance, purchasing power and the ability to negotiate are increased dramatically when cluster groups collectively purchase common raw materials and supplies. Another example may be one of sharing costs to promote regional events—potentially benefiting all businesses in the cluster through increased tourism. Furthermore, it has been proposed that cluster participants are able to share resources (such as infrastructure), reduce transaction costs (OECD 2000), and promote cooperation and knowledge sharing within industries (Brown and Duguid 2000; Tallman et al. 2004).

As was mentioned earlier, 40% of Australian SMTEs are located in rural or regional areas. The Australian government recognises the need to draw visitors to these regions (Jackson and Murphy 2006). Jackson and Murphy conducted a study of 60 businesses along the Murray River, which represents a large part of the border between the states of Victoria and New South Wales in regional Australia. Their study found that although there was a good understanding of the nature of competition and a number of factors that might encourage clustering existed there was little evidence of it occurring. One possible reason given for this was this local industry tended to be fragmented and have internal divisions, although the fact that the divisions crossed the borders of two states might have made collaboration more difficult.

Sellitto and Burgess (2003) examined the relationship between a small winery cluster and the implementation of a government sponsored Internet portal in regional Victoria. The study found that the winery business experience after portal implementation enhanced relationships between small wine producers, resulting in outcomes that included resource sharing, informal knowledge exchanges, and innovative practices that resulted in new product development.

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Models of competitive advantage

In his well-known article, McFarlan (1984) suggested that businesses should ask themselves five questions related to possible information technology applications. If the answer to any of the questions is ‘yes’, then it is a ‘strategic resource that requires attention at the highest level’ (p. 99). The five questions are (pp. 99–101):

- Can information technology build barriers to entry?
- Can information technology build in switching costs?
- Can information technology change the basis of competition (for instance, via Porter’s three generic strategies)?
- Can information technology change the balance of power in supplier relationships?
- Can information technology generate new products?

McFarlan suggests that businesses can position themselves in an information technology strategic grid, which can help them to realise how critical ICTs are to their business (refer Figure 1). The strategic impact of current systems (rows) is mapped against the possible future ICT systems.

		Strategic impact of application development portfolio	
		LOW	HIGH
Strategic impact of existing operating systems	LOW	Support	Turnaround
	HIGH	Factory	Strategic

Figure 3: IT Strategic Grid

Source: Adapted from McFarlan 1984: 102

Where current and future ICTs are not viewed as being strategic, the business is positioned in the Support quadrant. Where current ICT systems are seen as being crucial to keep things operating, but not seen as being strategic in the future, the business is positioned in the Factory quadrant. Where there is a potential for ICT systems to be strategic, but they do not currently play that role in the business, it is placed in the Turnaround quadrant. Finally, when the current systems of the business are strategic to operations and there is a view that future systems may also play that role, the business is positioned in the Strategic quadrant (Earl 1989). Businesses positioned in the right column of the grid (turnaround or strategic) are view as having future potential.

Three forces come into play to move a business from one grid to another. These are (Earl 1989):

- matching the potential of IT with the business operations and strategy
- strategic choices that are made about IT by management
- the competitive environment of the business.

When examining how IT can add value to an organisation's products and/or services, Porter and Millar (1985) also recognise that external forces can impact on the organisation. The model of competitive forces (refer Figure 2) was introduced to help managers identify potential strategic IT opportunities (Porter and Millar 1985).

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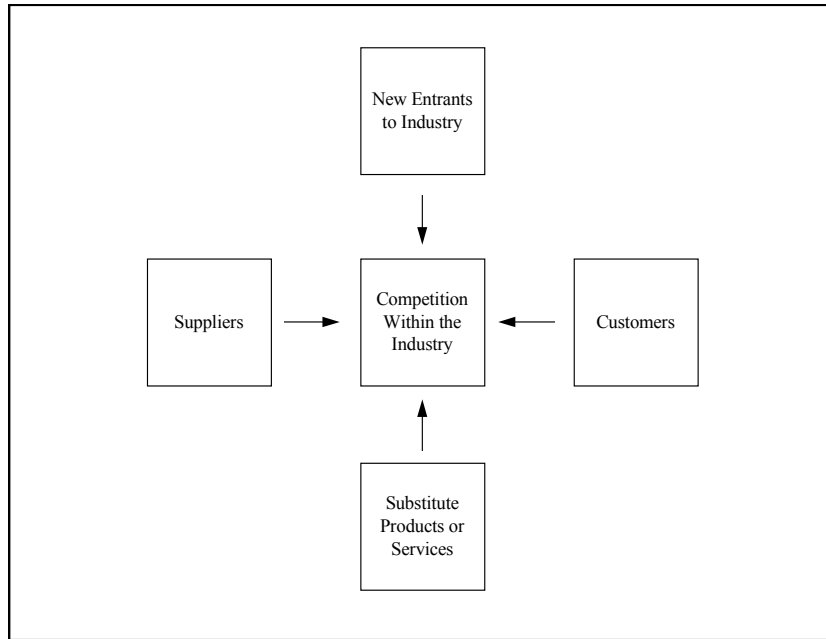


Figure 4: The five competitive forces model (adapted from Porter and Millar [1985])

The five competitive forces model can be used to examine external forces that affect the strategic potential of IT in each area (Earl 1989):

- Customers. Attempts could be made by the organisation to use IT to lock in customers.
- Suppliers. In the same way that organisations try to lock in customers, they could attempt to reduce the power of suppliers.
- Substitute Products/Services. This is where a substitute product is used to replace an existing product.
- New Entrants. Barriers to entry could be used as a weapon against new entrants to an industry. Locking in customers or competing aggressively in the areas of price and quality (even in the short term) are ways of discouraging new entrants.

Porter and Millar proposed the value chain to assist general managers to respond to the challenges of the information revolution (Porter and Millar 1985). An organisation's value chain is 'a system of interdependent activities, which are connected by linkages. Linkages exist when the way in which one activity is performed affects the cost or effectiveness of other activities' (Porter and Millar 1985, p.150). For instance, a more costly product design and more expensive raw materials can reduce after sales service costs and (perhaps) provide some marketing benefits. Figure 3 shows a representation of the value chain model.

'A company must resolve such trade-offs, in accordance with its strategy, to achieve competitive advantage' (Porter and Millar 1985, p.150).

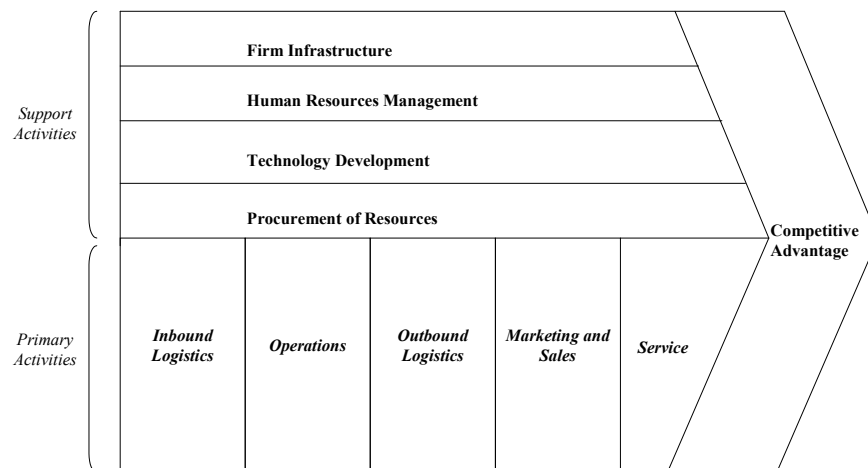


Figure 5: The Value Chain Model (adapted from Porter and Millar 1985, p.151)

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The Value Chain model (Figure 5) does not only have to apply to a single organisation. 'Linkages not only connect value activities inside a company but also create interdependencies between its value chain and those of its suppliers and channels. A company can create competitive advantage by optimising or coordinating these links to the outside' (Porter and Millar 1985, p.150)

The value chain system starts at the supplier, and includes the business or business unit, distribution channels and customers. There is a different value system for each industry (Porter and Millar 1985). This is another example of the importance of the relationship between the business and its external trading partners.

The first step of the value chain model is to classify each activity of the organisation that is a primary activity into one of the five key areas in the diagram above. Each activity is then analysed to see whether or not it adds value to the organisation's finished product or service in the eyes of the customer. This highlights the customer focus which Porter and Millar identify as being so important. Any activity that is deficient in this area is a potential target for an appropriate ICT investment. In the next stage of the model, appropriate ICT investments are suggested in the light of classification of the value activities. ICTs can transform the way each value activity is performed, as well as the nature of the link between each activity. Each value activity is made up two components:

- Physical component. This relates to the physical tasks required to perform the value activity (historically, these been the components affected by technological progress).
- Information-processing component. These are the steps required to capture, manipulate, and channel the data necessary to perform value activities, includes everything that the buyer needs to know to obtain the product and use it to achieve the desired result (developments in this area are now advancing faster than technologies for physical processing).

Both components need to be examined to attempt to identify ICT opportunities that can add value to the organisation's products or services (Porter and Millar 1985).

The key to the value chain is the identification of the primary activities and the determination of whether or not they add value to the products and/or services of the business. This 'business analysis' then leads to the identification of strategic ICT opportunities.

De Toni and Tonchia (2003) discuss two models of strategic management for the purposes of gaining competitive advantage, the traditional model of industrial organisation (IO - as championed by Michael Porter) and the more recent competence theory (CT). IO is seen as analysing the competitive position from 'outside-in', with the source of competitive advantage coming from outside of the business. The object of analysis is the industry. Competitive advantage is gained through cost leadership and differentiation. CT, however, is seen as approaching the analysis from 'inside out', where the source of competitive advantage is initially seen as coming from inside the business. The concentration is on the management of the resources and competencies within the business, which are the source of competitive advantage.

E-commerce/Internet based models

Porter (2001) suggests that the five competitive forces model and the value chain still apply with the advent of Internet technologies. New opportunities open up for businesses, but the flipside to this is that it is harder to sustain a competitive advantage.

Verona and Prandelli (2002) propose a model that targets customer loyalty on the Internet by combining affiliation and lock-in strategies. Their model is based on the notion that a business will attempt to affiliate with customers by enhancing visits to their website and building trust and then try to lock-in customers after this. They link these two aspects with two stages of e-commerce, information search and product purchase (refer Figure 6. In a multi-case study of five organisations, Verona and Prandelli's results indicate that it is vital that a business also include a lock-in strategy to match the initial attraction of customers.

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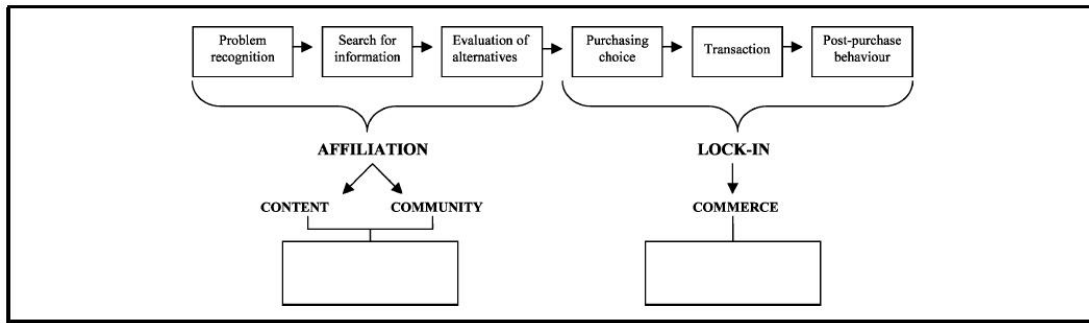


Figure 6: Affiliation and lock-in stages of customer behaviour (Source: Verona and Prandelli 2002: 301)

Burgess, Sellitto and Karanasios (2009) propose a model to support the development of a small business web presence. The purpose of the model was to guide small businesses from the planning process to setting up their web presence and was based on the notion that small business owner/managers should think about the business first and the Internet technology second. The model outlined an interactive process based around a business investigation of internal and external influences on the business, formulation of website strategy, identification of website features, decisions relating to method of website implementation, website promotion and the evaluation of website success. Figure 7 represents this conceptual model.

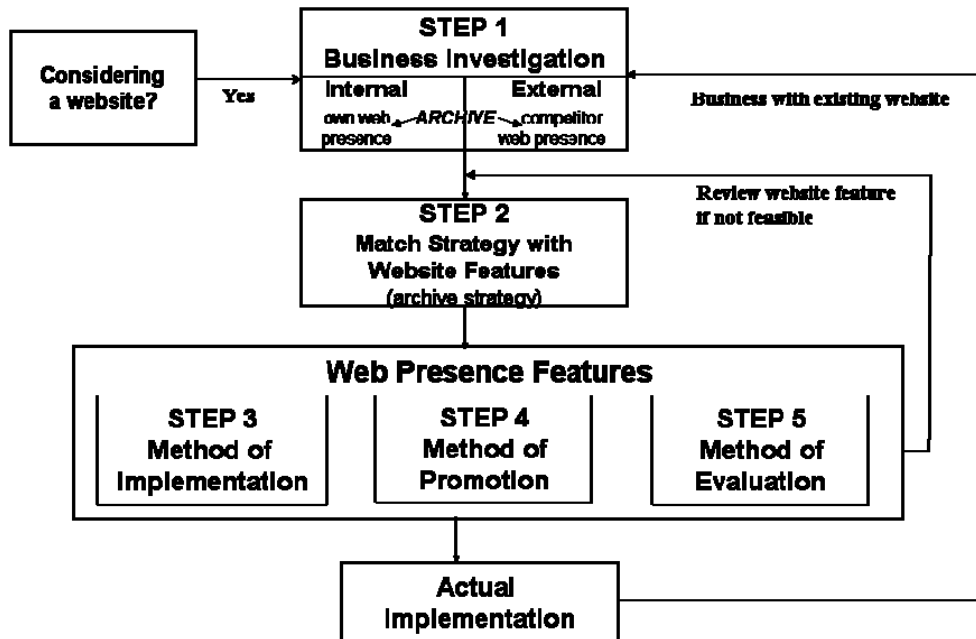


Figure 7: Small business web presence development model

The initial idea for developing the model was to guide owner/managers in their planning for the implementation and use of websites to interact with customers. As a prelude to developing the model, Burgess and Schauder (2000) identified a number of steps that are common to models that can be used to assist firms to identify strategic ICT ideas and/or electronic commerce opportunities—such as Porter and Millar (1985) and so forth. These steps included a need for an initial, thorough business investigation of where the business stood in relation to its own resources and as part of a marketplace involving customers and competitors. This exercise can increase the likelihood that decisions made later in regards to web content are based upon a sound knowledge of the business activities. This step involved a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which has been traditionally used in the marketing or economics areas of the business. An analysis is performed on the various areas of the organisation to identify current or potential strengths and weaknesses when compared with other competitive forces. Then, actual or potential opportunities to gain strategic advantage or threats to the organisation’s wellbeing were identified (Kotler et al. 1989). This analysis provided the basis for making sound business decisions about the proposed website presence, based upon the business situation.

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As part of the SWOT analysis, the firm's internal and (some) external forces were examined. Internally, the firm's resources in relation to time, money and expertise were considered, as well as the characteristics of the firm's goods and services. The firm's overall strategy was also examined, as a firm wishing to grow in size may require a more 'aggressive' web strategy than a firm that is satisfied with its existing customer base. Finally, the planning and technology skill level of the owner/manager and technology skills level of employees was determined. It is this final step that empowered the business to make appropriate, strategic decisions about their website and provided them with the capability to achieve them. Where skill levels were inadequate the deficiencies were to be addressed by appropriate training, introduction of skilled employees or the use of skilled consultants.

Externally, the websites of competitors were examined, as well as the ability of customers to access the firm's website.

Other steps of the model after the business investigation referred to identification of the firm's overall web site strategy, what web site features they were going to implement (facilitation), what method they used to implement these features, how they promoted the web site and how they evaluated its success.

Models of Internet development

There are many published models that document how a 'typical' small business (a business with 1–20 employees for the purposes of this report) might build its website over time. Some of these are known as 'staged' website development models. This development process is argued to be progressive, where the early stages of the web presence are typified by a simple 'brochure' type website, whilst later stages provide small businesses with advanced website features such as enhanced publishing opportunities, improved business promotion and interactive after sales support. At the most advanced stage, website complexity is typically reflected by having online customer order/payment processes that can mature to become fully integrated with 'back office' systems (Burgess and Cooper 2001; Lawrence 2002; Levy and Powell 2003; Rao et al. 2003; Sellitto et al. 2003; Burgess et al. 2005).

In describing staged models of adoption, Alonso, Mendo and Fitzgerald (2006) suggest that they represent early stages of Internet adoption by businesses gaining access via simple technologies (such as email) to dispense and gather information. Later stages refer to the creation of a basic website, where the business is able to publish a wider range of information, market their products and offer after-sales support. This is followed by e-commerce capabilities, where orders can be placed and perhaps paid for by customers. Finally, at the mature stages the business website is fully integrated with 'back office' systems. We will now provide some examples of typical staged models. Rao et al (2003) have proposed a model reflecting electronic commerce development by small and medium sized enterprises. The model is characterised by four stages:

- Presence: This provides for a basic 'brochureware' site. Communication is therefore 'one way' from the business to the user.
- Portals: This level introduces 'two way' communication via order placement and building customer profiles through communications (such as product feedback and surveys).
- Transactions Integration: Online financial transactions are introduced. This may be facilitated by the presence of virtual communities set up around areas of common interest—encouraging online marketplaces.
- Enterprises Integration: This is where the business processes of an organisation are completely integrated with the online business so that they are virtually indistinguishable, usually requiring high levels of collaboration between business partners.

For each stage of their model, Rao et al (2003) have identified a number of barriers and facilitators that assist the business to decide if it is logical to move to a later stage in the process. This model was used by the authors as a reference point in their previous work (Burgess et al 2005) as it assisted in determining the particular stage of website implementation a small business is at by examining its website features.

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Another example of a staged model is that proposed by Burgess and Cooper (2001), a web adoption model ('3Ps') that has been applied to various Australian industries such as tourism and metal manufacturing. The 3Ps model proposes that websites have three stages with appropriate content associated with each stage. The model contains the following stages (Burgess and Cooper 2001):

- Promotion Stage: This is an information stage that involves the website detailing business contact details, providing product and/or service information that promotes the business on the web.
- Provision Stage: This stage adds functionality to a website and adds features such as a catalogue or price list (non-database), support for the customer in the form of frequently asked questions (FAQs) and internal site links that add value for a visitor to the site. Industry-specific information content is incorporated at this stage.
- Processing stage: This is the transaction phase of website evolution and will involve online ordering, processing and payment activities associated with business products or services. Factors such as the content and design of the website, and security and privacy issues affect the success of these types of features (Ranganathan and Grandon 2002). This stage can also involve linking with (usually larger) suppliers or customers in an extended supply chain (Cary et al. 2004), an area that was previously difficult for small businesses to become involved in because of the cost and technological requirements (Sommer 2003).

Although the delineation between 'stages' in these examples is different, the similarity of approaches (from basic to advanced websites) is obvious in both. An important point to note about these models is that they do not specifically address individual website content, nor the strategic decisions that need to be made related to decisions about website content. This will be revisited later in this report.

There is, however, some criticism of staged models. Levy and Powell (2003) assert that 'stages of growth' models for development of a business' web presence may not hold and that few small businesses even go beyond the early stages of website development. Alonso Mendo and Fitzgerald (2006) support this assertion and suggest that many small business websites can remain in a 'dormant' state for months or even years. They criticise these models on the basis that they:

- are oversimplified
- are based on a false assumption that businesses progress from a basic to a more advanced website use in a linear fashion. Alonso, Mendo and Fitzgerald (2005) report examples in the UK where the use of Internet technologies (including particular website features) had, in fact, regressed over time
- lack validation
- do not take into account the diverse nature of small businesses
- do not consider other theories (such as 'evolutionary' models)
- focussed too much at the industry level and not on individual instances.

Martin and Matlay (2001) refer to these types of models as 'linear' models and also argue that they may be too simplistic due to the great diversity that small businesses exhibit; this diversity being associated with different types of business size, economic activity, location, resource availability and level of ICT adoption.

Pavic et al (2007) recently proposed a model of e-business integration (refer Figure 6), to assist SMEs in transition from an old business model into a modern e-business organisation. The model comprises three major sections:

- the traditional approach to creating competitive advantage (based upon Porter's generic strategies— cost leadership or differentiation).
- a value system (based primarily on the value chain—identifying value activities and the links between them).
- four stages of integration (altered IT infrastructure, changed business structure and strategy, internal integration, and integration and full information flow between the business and its partners).

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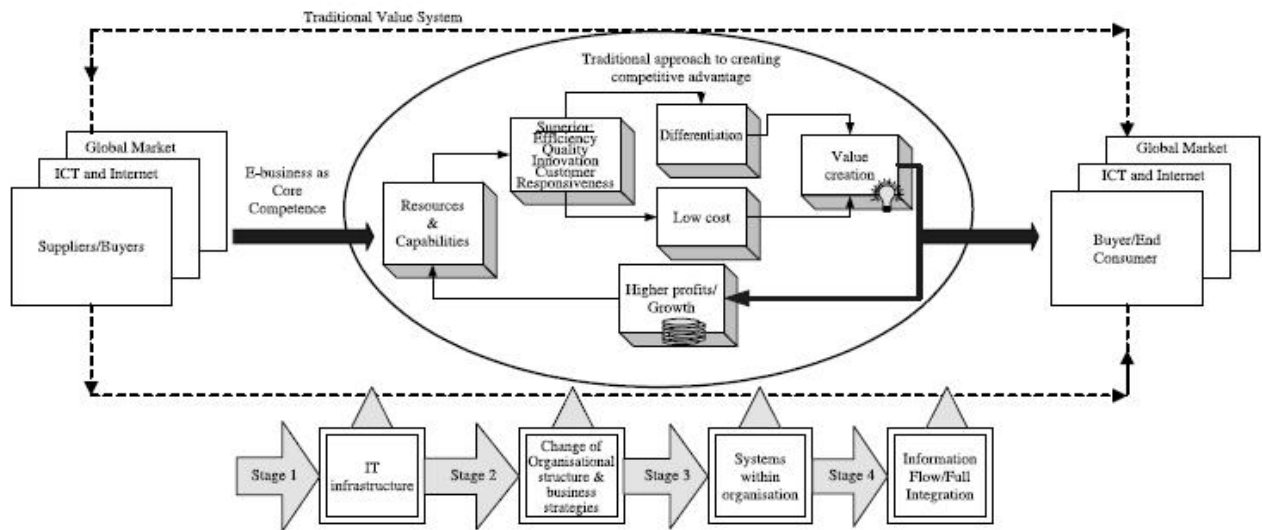


Figure 8: CATE-b prototype of e-business integration (source: Pavic et al. (2007:340))

Existing applications of ICTs in SMEs

This section explores current applications of ICTs, leading into the following section, which targets SMTEs specifically.

It is becoming increasingly difficult to find literature related to the use of computer hardware, such as personal computers in small and medium sized enterprises (SMEs). In a literature review related to the use of ICTs by rural businesses, Galloway and Mochrie (2005) suggested that studies related to the use of Internet-based and 'other' networked technologies are more prevalent.

ICT adoption

It is well known that the rate of adoption of ICTs in SMEs is lower than that of larger businesses (Deakins et al 2004). In Deakins et al' 2003 survey of 115 UK small businesses (predominantly micro businesses), 84% of all respondents used a computer. The vast majority of these (99%) had an Internet connection. Muske et al. (2007) conducted a survey of 193 micro businesses in the State of Oklahoma in the US. Nearly eight in ten respondents indicated that they had a computer. Although it has also been recognised that higher proportions of larger businesses adopt the Internet than their smaller counterparts, the gap is narrowing. In fact, Internet penetration rates for medium sized businesses almost match those of larger businesses in most OECD countries (well over 90%). Small businesses generally have a slightly lower penetration rate (Barba-Sánchez et al 2007).

The comparison between large and small businesses can be directly related to the human and financial resources that they have available to devote to the use of ICTs. From this, there is a greater need for small businesses to source their ICT expertise from outside the organisation—as the resources are often not available internally. Typically, small business applications of ICTs tend to be targeted at administrative or operational processes rather than longer-term strategic applications. Also, delays in the adoption of ICT generally can be related to a lack of appreciation by small businesses of the benefits that they can offer (Corso et al. 2001).

Lockett et al (2006) suggest that basic applications like email and Internet access are now ubiquitous in SMEs, but that there is a lower uptake of more complex applications, such as integrated financial ledger, supply chain and customer relationship management applications. Some of these applications might be 'rented' from outside businesses (Application Service Providers, or ASPs) and perhaps delivered online. In a study of UK SMEs that used SMEs they discovered that the rental model was attractive in some instances to SMEs.

In a study of SMEs in the Northern region of the UK, Maguire et al (2007) discovered that there were more networked PCs than standalone PCs. Whilst cost reduction was the primary reason given for employing ICTs, it was also recognised that ICTs could be used to improve products and services. There was also some evidence of

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strategic ICTs applications, predominantly in the areas of forecasting sales and customer analysis. The traditional barriers to ICT use were identified (lack of time, lack of skills and shortage of skilled staff).

Sensis (2007) conducted a study of 1800 small (1–19 employees) and medium sized (20–200 employees) businesses by telephone interview in April/May 2007 for the purposes of assessing the ‘online’ experience of small and medium sized enterprises.

The Sensis (2007) study determined that the vast majority of small businesses (96%) possessed a computer. An even higher proportion of medium sized businesses (99%) had at least one computer, with all businesses between 100–200 employees possessing a computer. A slightly higher proportion of metropolitan SMEs (97%) than rural SMEs (95%) had computers.

An increasing number of SMEs are connecting their computers into networks, which allows them to improve their communication and information sharing capabilities, in addition to their raw computing power (Barba-Sánchez et al 2007).

The majority of businesses had Internet connections, with 92% of small businesses and 99% of medium sized business having connections. Again, a slightly higher proportion of metropolitan SMEs (94%) had Internet connections than their rural counterparts (94%). The predominant form of connection was broadband, with 90% of small businesses having a broadband connection (61% being DSL) and 97% of medium sized businesses having broadband (65% DSL). Again, the proportion of broadband connections in metropolitan areas (92%) was slightly higher than in rural areas (89%).

A much higher proportion of medium-sized businesses (87%) possessed a website than small businesses (51%). Metropolitan businesses (57%) again had a higher proportion of websites than rural businesses (43%). Nearly two-thirds of SMEs suggested that their website had increased business effectiveness, with small businesses (66%) representing a slightly higher proportion than medium sized businesses here (58%). The most popular reasons given for increased business effectiveness were that the website:

- generated more business (16%)
- provided more exposure (13%)
- resulted in more enquiries (13%)
- allowed people to get information (12%)
- provided easy access to information (11%).

ICTs and Internet applications

Burgess (2002) reported that small businesses primarily use computers for administrative and operational purposes (for applications such as accounting, budgeting, payroll, inventory control and so forth). This software is usually purchased ‘off the shelf’ rather than customised for specific small businesses (McDonagh and Prothero 2000). In their literature review of ICT use in rural areas, Galloway and Mochrie (2005) quote a number of studies that refer to the use of ICTs to automate standard administrative functions. Again, these are typically applications devoted to accounting, budgeting, inventory control and word processing. The Muske (2007) study of 193 US micro businesses examined the use of different computer applications used within the businesses. The most commonly used applications were the Internet (89%), word processing (87%), financial record keeping (80%), graphic design (62%) and databases (59%).

Schubert and Leimstoll (2007) provide a useful means for classifying the use of business software and its corresponding management concepts in SMEs in a systematic way. The software used in the business is classified as to whether it deals with suppliers (e-procurement), operates within the business (e-organisation) or deals with customers (e-commerce). E-Procurement deals with business partners and centres on activities related to supply chain management and supplier relationship management. It relies on business-to-business (B2B) software, such as industry portals. E-Organization is concerned with activities within the business and relies on applications such as accounting, human resources management (HRM), procurement, sales, inventory, production management and product development, often drawn together as part of an Enterprise Resource Planning (ERP) system. Applications such as groupware, content management systems, document management systems and enterprise portals help to supplement internal activities (including business-to-employee [B2E] and employee-to-employee [E2E] relationships) and sometimes external interactions. E-commerce deals with customers and centres on customer relationship management and sometimes supplies chain management (when selling to other businesses). Thus it relies on business-to-consumer (B2C) and sometimes B2B software, such as customer portals, sometimes with shopping facilities.

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Schubert and Leimstoll's study (2007) of just over 1100 SMEs (with 10–249 employees) in Switzerland revealed that ICTs were used to predominantly support E-Organisational activities such as finance and accounting, HRM, and management. Applications supported to a lesser extent were those related to customer service and marketing/distribution [E-Commerce], procurement/purchasing [E-Procurement] and other E-Organisational activities.

Levenburg and Klein (2006) examined the online delivery of customer services in 395 SMEs in the US. Almost eight out of ten of these businesses use the Internet for business purposes. One interesting finding of this study is the major differences that were identified between the groupings of micro (1–10 employees), small (11–50 employees) and medium sized (51–250 employees) businesses, were between micro businesses and the rest. In other words, it appeared that small and medium sized businesses were quite similar and that micro businesses may 'do things differently' (p.143). One reason given by the authors for this was that micro businesses were mainly retail and service in nature—where businesses deal directly with customers and high levels of interpersonal contact with them may be considered to be the norm. Small and medium sized businesses, however, are represented in a variety of industries where customer contact may be less direct. This may have some implications in relation to tourism based SMEs (SMTEs), a group which is dominated by micro and small businesses (refer next section).

Levenburg and Klein (2006) found that micro businesses were more likely to use the Internet for research, whereas small and medium businesses were more likely to use it on applications for providing added value or enhancing customer service. Email represented an important communication tool for all types of businesses.

Shin (2006) examined the adoption of enterprise application software in 525 Korean SMEs (with up to 300 employees). They found a number of differences in the levels of adoption of such software according to the size of the business, with the likelihood of adoption increasing with the size of the business. These are represented in Table 2.

Table 2: SME Adoption Rates in Korea

Type of Application	Rate of Adoption (%)		
	'Small' Business (1–29 employees)	'Medium' Business (30–100 employees)	'Large' Business (101–300 employees)
Groupware	10	16	37
ERP	13	19	41
Customer Relationship Management	9	11	14
Supply Chain Management	4	6	11
Knowledge Management	3	2	8
Enterprise Application Integration	3	6	8

Source: Adapted from Shin (2006:247)

Jarvis et al (2006) examined the use of Internet technologies in manufacturing SMEs in two rural areas of the UK, South Warwickshire and North Devon. Approximately seven out of 10 businesses suggested that email use was commonplace. The manufacturing nature of the businesses was reflected in that much of the email use was driven by supply chain relationships and entailed the online transfer of designs, orders and invoices. Internal use of email within the businesses was also important. The authors suggested that their findings suggested that decisions to implement new applications were based around their owner/managers recognising the possibilities of improved efficiencies, increased profitability or better customer service rather than being situated in a particular region.

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The Sensis (2007) study identified the following primary applications that SMEs used on the Internet. Those applications marked with an asterisk are where more than 50% of SMEs identified the applications as being essential:

- *communicate via email (96%)
- *look for reference information or research data (87%)
- *look for information about products and services (85%)
- *Internet banking (80%)
- access directories (such as the Yellow Pages) (76%)
- *pay for products and services (72%)
- access and use online catalogues (68%)
- *streamline communications with customers and staff (67%)
- place orders for products and services (64%)
- receive payments for products and services (59%)
- use website to advertise to promote business (57%)
- take orders for products and services (51%).

In their 2003 survey of 115 UK small businesses, Deakins et al. (2004) found that those small businesses that had websites predominantly used them for the provision of information and enabling customers to submit orders and ask questions online.

Existing applications of ICTs in SMTEs

Tourism ICT implementations in Europe, the US and China has followed similar path: first airlines, and then hotels, took the lead. Then tour operators, attractions and Destination Management Organisations (DMOs) followed (Ma et al. 2003).

Hawking et al (2005) highlight the emerging trend of adventure tourism operators utilising new forms of mobile technology and allude to web-based tourism information systems that provide powerful access facilities to consumers engaging in these activities. Furthermore, tourism industry entities such as airlines, car rental agencies and hotels chains were quick to take advantage of the new opportunities offered by the Internet, and developed Internet based applications (Buhalis and Licata 2002).

Various pieces of research on the web presence and Internet use by of SMTEs has been undertaken. Early work by Morrison and colleagues (1999) examined the adoption of Internet technologies by Scottish hotels, reporting that many of these small operators were not leveraging the value of their websites which tended to mainly electronic brochure in implementation. A survey of 55 small and medium sized European hotels found a high percentage of respondents used a website to promote their hotels (Collins et al. 2003). An exploratory study which examined the use of the Internet by small Canadian inns and bed and breakfasts (BandBs) was undertaken by Lituchy and Rail (2000). The authors found that both these types of SMTEs used the Internet to expand their customer base, whilst their website implementation resulted in benefits associated with lower marketing costs, effective customer communication and broader customer reach. Anckar and Walden (2001) examined the introduction of an online booking and payment system in a small Finnish hotel and identified the barriers faced by small hotels when adopting information technology (IT). These barriers included poor IT knowledge and experience; resistances to change and issues associated with communication infrastructure availability—barriers that in this study are exacerbated by the rural location of the accommodation providers. Anckar and Walden (2001) also recommend that more viable adoption outcomes would result through the use of IT consultants in web projects and the active involvement of both management and workers in the development process. An Australian-based study investigating websites in six tourism sectors found that accommodation providers did not use their sites to offer as many attractions as other tourism sectors (Weeks and Crouch 1999). Lexhagen (2005) investigated a customer's perspective of the value-added services provided by the websites for tour operators and travel agencies. The website services perceived to be important by customers embraced features that addressed product price comparison before purchase, location maps, email contact, booking forms and search facilities.

The Sensis (2007) study provided a breakdown of computer usage by industry area, but did not have a specific category devoted to tourism as such. However, it could be argued that there were two categories that contained a 'tourism' component—Accommodation, Cafes and Restaurants (certainly) and Cultural, Recreational and Personal Services. Adoption rates of these categories are compared in Table 3.

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Table 3: Selected Australian ICT adoption rates

Technology Component	Small Business (%)	Medium Sized Businesses (%)	Accommodation, Cafes and Restaurants (%)	Cultural, Recreational and Personal Services (%)
Computer usage	96	99	95	95
Connected to the Internet	92	99	88	94
Look for information on the Internet	NA	NA	77	78
Have a website	51	87	NA	72
Place orders on the Internet	58	72	63	69
Pay for goods on the Internet	66	77	66	78
Take orders over the Internet	47	54	59	61
Receive payments over the Internet	54	62	47	60

Source: Compiled from Sensis (2007)

Evaluation of ICTs

SMEs can receive a range of benefits from the successful use of ICTs in their businesses (Barba-Sánchez et al. 2007):

- enhance the productivity and effectiveness of some business processes
- encourage adoption of new organisational, strategic and/or managerial models
- open up new markets
- improve the level of skills within the business (for example, through training for ICT use), increasing efficiency and efficacy.

Measuring success of ICTs in SMEs

SMEs generally are not that good at assessing the benefits of their ICT systems. This is because the lack of a strategic vision for ICT evaluation combined with the well-documented lack of capital resources act as inhibitors for SMEs to carry out ICT evaluations (Lin et al 2005). The difficulty of measurement of benefits emerges because the adoption of ICTs involves costs that may be difficult to recognise and benefits that are difficult to quantify).

In a review of literature related to measuring the benefits of ICTs in small businesses, Burgess (2002) identified three methods that have traditionally been used to evaluate their success:

- *Measures of system usage.* These measures centre on examining data that has automatically been generated from the system—such as the number of transactions generated from the system, number of reports generated and so forth. Systems usage is perhaps the easiest to measure, but does not always relate to improved productivity or performance (Caldeira and Ward 2002).
- *Impact upon organisational performance.* This can be difficult to measure as ICT systems are often integrated with other organisational factors (such as improved businesses processes) that can affect performance.
- *Measures of User Satisfaction.* This is the most common method used to assess the level of ICT success, by asking users or even owner/managers their opinion of the success of a new system. However, such measures are tied to the expectations. Users or owner/managers with low expectations of a system may rate its performance higher than those with higher expectations of the benefits that can be provided. Most research projects that have attempted to evaluate the success of ICT projects have surveyed the information satisfaction levels of the owner/ manager (Caldeira and Ward 2002).

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Caldeira and Ward (2002) have also identified the number and nature of ICT applications as a measure of success of ICTs in small business. The argument here is that the use of more, strategic oriented systems implies greater success.

Costello et al. (2007) have critiqued ICT evaluation models for use by SMEs according to four categories:

- Reference to technology (hardware, software and telecommunications)
- People issues (often the beneficiaries of ‘softer’ benefits of ICT systems (:58) and also the source of a number of problems associated with such systems)
- Evolutionary position (as per the ‘staged’ models described earlier)
- Management (competence and capabilities of owner/ managers)

Costello et al (2007) suggest that the importance of these factors differs between larger businesses and SMEs (refer Table 4).

Table 4: Importance of ICT evaluation categories

Level of Importance	Large businesses	SMEs
High	Evolutionary position	Technology
	People Issues	People Issues
	Management	Management
Low	Technology	Evolutionary position

The reason for the high level of importance for technology with SMEs is that the cost of implementing ICT systems and the problems involved with doing so is likely to be high on the list of their priorities.

The study of the ICT skills and capabilities of SMTEs can be generally be grouped within the area of e-adoption studies. The logic is that the skills and capabilities of SMTEs are a major factor in the decision to use ICT in a business and that numerous studies have demonstrated that SMTE managers do not have the skills and knowledge required for the adoption of ICT.

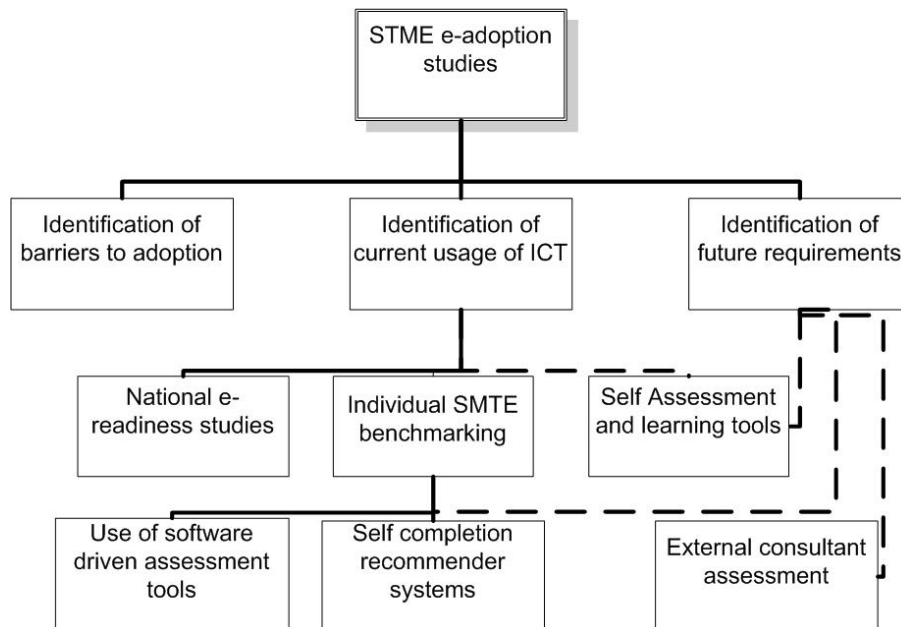


Figure 9: Types of e-adoption studies and skills/capabilities assessment tools

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Barriers to ICT adoption by Small and Medium Tourism Enterprises

Numerous studies have examined the adoption of ICT by SMTEs and noted various factors that influence uptake. Clearly there are innovative tourism operators who are actively implementing ICT in their businesses. Two important reasons why SMTE managers are not adopting ICT are the size of SMTEs and resource scarcity (Werthner and Klein 1999). Because the majority of tourism and hospitality businesses are SMEs, it is understandable that the business owner relies on the knowledge and expertise of his product rather than on information and communication technology. Moreover, much like other SMEs, tourism businesses tend to be time and resource poor, and their small size is the main disadvantage in ICT take up.

Another reason cited by Braun (2004) is that some managers have a negative attitude towards ICT and that could be related to the education and professional background of the operator, as well as to the lifestyle choice they have committed to. Other studies revealed that the lifestyle choice of owner operators often entails a negative attitude towards ICT. It should be noted that such attitudes are not only held by SMTEs and indeed the World Tourism Organisation has reported that most destination management and regional tourism organisations (DMO) are still at the stage of implementing e-business in respective destinations, or do not even have a strategy for the implementation of e-business (Ndou and Petti 2007).

Also SMTEs may not adopt ICT for other reasons that are beyond their control; for example they may be located in peripheral regions where the ICT infrastructure, especially broadband, is either inadequate, not accessible or prohibitively expensive due to limited demand (Braun 2004). Further the complexity and rapid evolution of e-commerce may compound these difficulties. Some reasons for non-adoption of e-commerce are given in Table 5 below.

A number of factors have been found to influence ICT technology adoption in small businesses generally including the size of the business, the sector (i.e. hotels, restaurants, attractions, tours, travel trade), management enthusiasm and leadership, use of IT consultants to provide know-how, competition and user participation (Yap, Soh and Raman 1992). A number of studies have examined the determinants of uptake of ICT by small business. These studies indicate that significant barriers exist to the adoption of technology by SME's including time and resource scarcity (Werthner and Klein 1999).

Table 5: Barriers to ecommerce adoption by SMTEs

Barrier	Source
Network status and position	(P Braun 2002)
Expense of lack of ICT infrastructure (often due to peripheral location)	(Anckar and Walden 2001)
Educational or professional background	(Frambach, Barkema, Nooteboom and Wedel 1998)

Conclusion

This review indicates that using ICT technology available to create value for an individual business is a complex task. Some factors that are important in creating value (or achieving competitive advantage) include:

- the mission of the organisation
- the nature of competitive forces within the product market in which the business operates
- the adoption of best practice in ICT usage
- the adaptation of business practices to integrate ICT into the business workflow.

The literature also indicates that there is evidence to suggest some common patterns in development of ICT within STME's as well as the importance of people issues in successful implementation.

Skills Capabilities Assessment Tools

There appears to be widespread consensus that industry preparedness in terms of ICT and e-marketing skills and training falls well short of the requirements to operate within a now ICT-driven sector (Patrice Braun 2004, p. 232).

Types of tools

A number of different types of ICT skills capabilities assessment tools have been developed and these are discussed below.

E-readiness assessment

The first type of skills assessment tool is for the assessment of the skills of operators in a particular region and are predominantly designed for government policy and planning purposes. These tools are designed to provide an adoption profile of a country, region or industry sector in order to determine the current status and areas for intervention. One tool for assessing e-readiness is VERDICT (Ruikar, Anumba and Carrillo 2006). Other such strategic studies have examined the status of ICT adoption in the Greek Tourism Industry (D Buhalis and Deimezi 2004). Similar studies have examined barriers to ICT adoption in the hotel sector (Anckar and Walden 2001).

Benchmarking

A second type of assessment tool is directed towards profiling the ICT uptake status of individual businesses and providing feedback to the business operator about their performance compared to their peers or some external benchmarks. This type of tool requires some sort of understanding of either the normal progression of ICT development of a business or prior (or concurrent) surveying of similar businesses.

Two subtypes of benchmarking tools have been identified, either automated website evaluation tools such as those that assess the actual website of an operator against established standards and norms (Chan and Law 2006) or self assessment tools that ask a series of questions and may then provide a comparison of the results against others similar businesses or simply provide a score indicative of the performance. A further type of tool may provide recommendations about further development options and next steps to improve the website. These tools therefore serve to identify future requirements.

Experts or learning

A further differentiation between types of assessment tools is provided by who conducts the analysis. In some cases an expert may provide an external and informed perspective on the status of the business managers' ICT skills and capabilities. Alternatively, the manager may themselves perform the assessment.

Scope—general or specific assessment

A second dimension of assessment tools relates to their degree of specificity. Thus the assessment tool may examine ICT skills generally or may focus on a particular type of ICT. A preliminary questionnaire that provides the basis for benchmarking of operator general ICT skills and capabilities is provided in Appendices A and B. In this study the scope examined is specific and related to website marketing skills evaluation.

Conclusion

Two dimensions of assessment tools have been identified. These are purpose and scope. The various assessment types described here have three basic purposes: description, diagnosis, or prescription. Descriptive tools explain or describe what happened. Diagnostic tools identify problem areas, but do not indicate how to address the problems. Prescriptive tools urge action along a clearly defined path. Further the scope of the assessment can relate to general ICT skills or focus on a specific topic or area. Further assessment tools can be targeted at improving the knowledge of the policy maker or of the individual operator. In this study the scope examined is specific and related to website marketing skills evaluation. Evaluation tools were developed that may be diagnostic and/or prescriptive and useful for self assessment and also for policy diagnostics.

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Chapter 2

ASSESSMENT OF ICTS IN SMTEs

Background

It was previously reported that several ICT adoption phases of this project would be examined through the use of focus groups and interviews. The interviews enabled individual operators/managers from a diverse range of tourism backgrounds to discuss the existing and likely developments with respect to adopting computer technology. The questions that directed the focus group and interviews were structured around several themes:

- business demographics
- use and familiarity with ICT
- use of ICTs in operational areas
- modes for internal and external business communication
- ICT skills
- ICT practice
- ICT use—regulation and innovation

Participants in the focus groups raised several important ICT issues. This allowed the researchers to further explore these issues in subsequent interviews with a new set of SMTEs. An overview of the questionnaire is provided in Appendix A and the detailed draft questionnaire is given in Appendix B.

These themes are used to frame the findings as a summary of both focus group and interview responses. Furthermore, the study provided the researchers with an opportunity to identify businesses that could be viewed as engaging in ‘good practice’ when it came to ICT use. Conversely, the researchers were also able to identify several ‘naïve’ ICT users from this group of SMTEs. The project was structured so that data collection would occur across two States, South Australia (SA) and Victoria, allowing composite analysis of ICT implementation by this group of SMTEs. The study sourced participants from both metropolitan and rural areas of both States—potentially allowing some comparison and contrasting between these areas.

The data for Victoria was collected in the period November 2007 – January 2008. Whilst it was intended to hold a focus group in both metropolitan and rural Victoria, the logistics of gathering businesses together around Christmas meant that it was only possible to hold one focus group, in a rural town situated 70 kilometres inland from the CBD. The rest of the data collection occurred with interviews with SMTEs in surrounding areas of the rural town (rural areas) and in and around the CBD area of Melbourne (metropolitan areas). Businesses were sourced from online and offline business directories. The focus group was facilitated by the researchers from SA. This data collection was supported by the use of an Audience Response System. The focus group proved to be particularly beneficial to the SMTEs because the group process allowed them to see how other SMTEs were managing their ICTs and to discuss a variety of issues. From this focus group the researchers modified the questions to be asked at interview. In Victoria, in total, five businesses participated in the focus group and fifteen businesses (five rural and ten metropolitan) were interviewed.

The data for SA was collected in the period December 2007 – February 2008. Business was chosen from rural and metropolitan South Australia. Businesses were sourced from a range of materials obtained from local tourism offices and the SA Tourism business website. The data for SA was initially intended to be collected through focus groups consisting of representatives from different companies and through interviews with individual companies. However, the lack of availability of businesses during a peak tourism period restricted access to the businesses and the focus group approach had to be replaced by interviews. The interviews were arranged to accommodate individual businesses availabilities, with the interviewers travelling to each business instead of the businesses travelling to a focus group. In total twenty-one SMTEs were investigated in this phase of the research project. Ten of the businesses interviewed were in rural parts of SA, the remainder being metropolitan.

Thus, the data collection for Victoria and South Australia consisted of 41 businesses in total, 21 being metropolitan businesses and 20 rural businesses.

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Results

The results are presented and reported in sections that reflect the themes explored in the questions used with both focus group and interview participants. There are seven themes (A through to G) discussed over Chapters 2, 3 and 4. The results are inter-dispersed with selective summary quotations derived from interview transcript analysis.

Theme A—demographics

A number of different types of businesses participated in the study. Table 6 shows the breakdown between the different types of businesses, with *attraction* and *tour* businesses making up over 60% of the businesses. There was a reasonably equal split between the states, especially for these two types of businesses, although there were more relatively metropolitan *tour* businesses.

Table 6: Type and location of participating businesses

Type of Business	State		Area		Total	Overall Percentage
	Vic	SA	Metropolitan	Rural		
Attraction	8	7	7	8	15	37
Tour	4	6	7	3	10	24
Accommodation	2	5	3	4	7	17
Event	3	1	1	3	4	10
Other	3	2	3	2	5	12
Total	20	21	21	20	41	100

Table 7 shows the breakdown of the number of employees of the businesses that participated in the data collection. Not surprisingly, seven out of 10 businesses had only one to five employees, with the majority of the other businesses having 6–19 employees. Although the split between metropolitan and rural businesses is very even, it is interesting to note that a higher proportion of South Australian businesses had over 6 employees.

Table 7: Type and location of businesses

No of employees	State		Area		Total	Overall Percentage
	Vic	SA	Metropolitan	Rural		
1–5	17	12	13	16	29	71
6–19	3	7	7	3	10	24
20–200	-	2	1	1	2	5
Total	20	21	21	20	41	100

Most of the businesses (88%) that participated in the study had been in operation for three or more years. There are some interesting observations to be made when examining how long the participating businesses had actually been in operation and comparing this to how they had been using ICTs. This is represented in Table 3. Note that the majority of the businesses indicated that they had been using ICTs for as long as they had been in businesses. These businesses are represented in the dark-shaded cells in Table 8. Note that all of the businesses that were in existence for five years or less indicated that they had been using ICTs for the life of the business. Only some businesses that were in operation for six or more years indicated that they had not used ICTs for all of the time they had been in operation. These businesses are shown in the cells to the *left* of the shaded cells. Note that one business did not use ICTs at all despite the fact that it had been in operation for over 10 years. It is also interesting to note that there are some businesses whose values in Table 8 fall to the *right* of the shaded cells. These are businesses where the interviewees specifically indicated that they personally had been using ICTs for longer than the business had been in operation.

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Table 8: Years in operation and using ICTs

Years in Operation	Years using ICTs					Total
	Do not use	1–2	3–5	6–10	10+	
1–2		5				5
3–5			10		2	12
6–10		1	3	6	1	11
>10	1		3	3	5	12
Total	1	6	16	9	8	40*

*Note: One of the businesses did not report how long they had been in operation

The study also sought to determine the markets served by the businesses and their main business focus. Although a number of the businesses that were interviewed operated in a range of markets (across local, state, national and international areas), they were asked to identify which of these was their *primary market*. The results (refer Table 9) revealed that for nearly half of the businesses their primary market was local. Note the differences in local and state markets, with the results reversed in South Australia and Victoria. Not surprisingly, more rural businesses tended to have a ‘state’ focus and only metropolitan businesses had an ‘international’ focus as this had emerged in previous studies.

Table 9: Primary market of businesses

Primary market	State		Area		Total	Overall Percentage
	Vic	SA	Metropolitan	Rural		
Local	6	12	9	9	18	47
State	7	3	3	7	10	26
National	2	2	2	2	4	11
International	2	4	6	-	6	16
Total	17	21	20	18	38*	100

*Note: Three of the businesses did not report their primary market

The businesses were asked to identify their primary business focus (refer Table 10). Growth (43%) and lifestyle (33%) were seen as the main business foci. Note that four Victorian rural businesses did not report their primary business focus, so the numbers between the two states and between metropolitan and rural areas cannot be directly compared. A higher proportion of metropolitan businesses (33%) identified *efficiency* as their primary business focus than rural businesses (12%). That meant that more rural businesses identified *lifestyle* (38% versus 29% metropolitan) and *growth* (50% versus 38% metropolitan) as their primary business focus.

Table 10: Primary focus of businesses

Primary business focus	State		Area		Total	Overall Percentage
	Vic	SA	Metropolitan	Rural		
Lifestyle	5	7	6	6	12	33
Efficiency	5	4	7	2	9	24
Growth	6	10	8	8	16	43
Total	16	21	21	16	37*	100

*Note: Four of the Victorian businesses did not report their primary market; and that two SA rural businesses reported two foci—lifestyle and growth—these have been averaged between the two foci.

Table 11 details the characteristics of the SMTEs that participated in the study. There were 21 metropolitan located businesses (VM = Victoria Metropolitan; SAM = South Australia Metropolitan) and 20 rural located businesses (VR = Victorian Rural; SAR = South Australia Rural).

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Table 11: Demographics of SMTEs

Code	Type	Size (employees)	Business Age (yr)	Years using ICT	Market				Business Focus		
					Local	State	National	International	Lifestyle	Efficiency	Growth
VM1	Event	6–19	6–10	6–10	X						X
VM2	Other	1–5	>10	>10			X			X	
VM3	Accommodation	6–19	3–5	>10				X		X	
VM4	Tour	1–5	3–5	3–5			X			X	
VM5	Tour	1–5	3–5	3–5		X					X
VM6	Tour	1–5	1–2	1–2	X				X		
VM7	Attraction	1–5	>10	>10		X			X		
VM8	Attraction	1–5	>10	Don't use				X		X	
VM9	Attraction	1–5	6–10	>10	X					X	
VM10	Other	1–5	3–5	3–5							X
VR1	Event	1–5	3–5	3–5		X			X		
VR2	Attraction	1–5	>10	3–5		X			X		
VR3	Attraction	1–5	>10	6–10							
VR4	Attraction	6–19	6–10	3–5	X						
VR5	Attraction	1–5	>10	>10		X			X		
VR6	Accommodation	1–5	3–5	3–5		X					X
VR7	Tour	1–5	6–10	6–10	X						X
VR8	Event	1–5	>10	3–5		X					
VR9	Attraction	1–5	-	3–5							
VR10	Other	1–5	3–5	>10	X						X
SAM1	Tour	1–5	6–10	6–10	X				X		
SAM2	Attraction	1–5	6–10	6–10	X						X

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Code	Type	Size (employees)	Business Age (yr)	Years using ICT	Market				Business Focus		
					Local	State	National	International	Lifestyle	Efficiency	Growth
SAM3	Tour	6–19	6–10	3–5				X	X		
SAM4	Other	6–19	6–10	1–2	X				X		
SAM5	Tour	6–19	3–5	3–5	X						X
SAM6	Attraction	6–19	>10	6–10				X			X
SAM7	Accommodation	6–19	1–2	1–2				X	X		
SAM8	Attraction	20–200	1–2	1–2	X						X
SAM9	Accommodation	1–5	3–5	3–5		X				X	
SAM10	Tour	1–5	3–5	3–5				X			X
SAM11	Attraction	1–5	>10	6–10	X					X	
SAR1	Accommodation	1–5	6–10	6–10			X			X	
SAR2	Tour	1–5	3–5	3–5	X				X		
SAR3	Attraction	1–5	1–2	1–2	X				X		X
SAR4	Tour	1–5	1–2	1–2			X				X
SAR5	Attraction	6–19	6–10	3–5		X			X		X
SAR6	Accommodation	20–200	3–5	3–5	X						X
SAR7	Other	1–5	>10	3–5	X					X	
SAR8	Event	1–5	6–10	6–10	X						X
SAR9	Attraction	1–5	>10	>10		X			X		
SAR10	Accommodation	6–19	>10	>10	X						X

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Theme B—use and familiarity with ICT

This section focuses on the use of ICTs and the perceived understanding and familiarities that SMTEs had with the technology. It identifies and describes how each of the study’s SMTEs was segmented into three levels of ICT expertise. Also reported is the general adoption of computers, networks and the Internet by SMTEs, as well as the business areas that use ICTs.

Classifying SMTE based on their ICT expertise

The study classified SMTEs into different levels of ICT expertise in an endeavour identify naïve and ‘good practice’ users. The classification of SMTEs used a three level system that was based on their perceived practical understanding and familiarity of ICTs as well as the total number of years of using ICTs. Questions that were used to determine the groupings of SMTEs included:

- How long have you been using ICTs in your business?
- Familiarity and understanding of basic ICTs
- Are you broadly familiar with the following ICTs (basic list of computer applications supplied)?
- How would you describe your practical understanding of these ICTs?
- Familiarity and understanding of more advanced ICTs
- Are you broadly familiar with the following ICTs? (List of new and innovative ICTs supplied)?
- How would you describe your practical understanding of these ICTs?
- Can you identify what operating system you predominantly use?

Based on responses to this set of questions the participating businesses were grouped into a spectrum of lower, middle and upper levels of ICT expertise. Arguably the SMTEs that have a lower classification represent the naïve ICT users, whilst the upper classified firms are ones that are more experienced in the use of ICTs.

Tables A1 and A2 (Appendix C) summarise the classifications of SMTEs based on their use and perceived familiarity with ICT.

Table 12 shows the classification of ICT expertise by state and by area. In the final analysis, one in two businesses were classified at the *middle* ICT expertise level with a third of the businesses classified in the *upper* level. This meant that we only classified one in five businesses at the *lower* ICT expertise level. Although we were expecting a higher proportion of businesses at this level, it probably does represent businesses having a greater level of familiarity with ICTs these days.

Table 12: ICT expertise level of businesses

ICT expertise classification	State		Area		Total	Overall Percentage
	Vic	SA	Metropolitan	Rural		
Upper	5	8	8	5	13	32
Middle	11	9	8	12	20	49
Lower	4	4	5	3	8	19
Total	20	21	21	20	41	100

Table 13 relates the levels of expertise to the number of years that the businesses have been using ICTs. Note that the proportion of businesses in the expertise categories differ according to the years that the businesses have used ICTs—almost 9 out of 10 of those businesses with longer use of ICTs have been categorised as *upper* or *middle*.

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Table 13: ICT expertise and years of ICT use

ICT expertise and years of ICT use	Years using ICTs #			Years using ICTs (%)			Overall Percentage
	Do not use	1–5	6+	Do not use	1–5	6+	
Upper	0	5	8	-	22	47	32
Middle	0	13	7	-	56	41	49
Lower	1	5	2	100	22	12	19
Total # of businesses	1	23	17				100

SMTE adoption of computers, networks and the Internet

This section summarises the number and type of computers used by the tourism businesses, the type of network adopted, type and location of their Internet access and type of website (refer Appendix C Table A3) for detailed data).

The majority of businesses reported that they had either interactive websites (49%) or information-based websites (42%). A large proportion (80%) of businesses in Victoria that were classified as having an upper level of ICT expertise had implemented interactive web sites, this was not the case in SA where only 37.5% had an interactive website. The remaining businesses in the ‘upper’ classification’ (62.5%) offered information only. In contrast it was the businesses rated as ‘middle’ in SA that had the largest number of interactive web sites (78%).

Table 14 provides further breakdown of the types of websites according to business area and business classification.

All businesses in SA had websites, although one business was in the process of establishing the website and it was not yet fully operational. In Victoria, 90% of businesses had websites.

A higher proportion of metropolitan businesses (57%) had interactive websites than their rural counterparts (40%). A much higher proportion of businesses that were classified as having *upper* (57%) and *middle* (60%) level ICT skills reported that they had interactive websites than those classified as having *lower* ICT skills (only one website, or 12%). This is an important outcome, as it implies that there needs to be some level of ICT skill awareness before interactive websites will be implemented.

Table 14: Type of site by area and ICT skill

Type of website	Area		ICT skill classification			Overall Percentage
	Metropolitan	Rural	Upper	Middle	Lower	
Interactive	12	8	7	12	1	49
Information	7	10	6	5	6	42
Other	-	1	-	1	-	2
No website	2	1	-	2	1	7
Total # of businesses	21	20	13	20	8	100

With respect to website implementation, further details on salient website features used by various SMTEs can be gauged from some of the comments gathered from participants.

Consider the views of one tourism operator who identified what, for them, were important interactive features:

The website is used as a vehicle for people to see the tour locations and has interactive features that include a booking function, a contact/question information form that allows feedback, and images that are constantly updated to entice previous customers to re-visit the site (to see their photo). VM6

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Another SMTE business that specialises and deals in art advises that they only require an informational website. This art dealer indicates:

The website is deliberately designed to be 'simplistic' and is used to initiate contact with customers. Once contact is made then discourse follows— usually via phone or email. The website displays artwork and any artwork shown is priced so that customers know how much paintings cost (some competitors do not do this). An e-newsletter offered on the website allows the business to build a customer distribution list. VM2

Arguably, for this business, the website appears to be a promotional marketing tool that allows new client acquisition—where a more complex interactive website would not add additional value to business activities.

It would be expected that businesses would be more likely to rely on networks as they added more computers, and this appears to be the case. Of course, businesses with no or only one computer did not report a network. Of those businesses that had 2–5 computers, 55% reported that they had no network, 41% reported that they had a cable network and one business (5%) had a wireless network. Both businesses with 6 or more computers reported that they had a network.

In SA 57% of businesses were not networked (had only one computer or chose not to network) compared to 70% in Victoria. Of the 15 businesses in SA with more than one computer, 60% were networked. Of these, 87.5% used cable and one (12.5%) used both cable and wireless. In Victoria 50% of businesses that were networked used cable and 50% used wireless. In situations where the mix of computers included desktop and laptop (43%) just over half (55%) were networked.

In relation to the type of Internet connection, Internet access using fast-speed ADSL is the predominant manner (87.5%) for all businesses in SA as well as Victoria (65%). Only three businesses overall had solely wireless connections, whilst even less (two) relied on dial-up connections.

In one business ADSL was not available due to the geographic location of the business and this was seen as a serious limitation by the business (SAR5). It was anticipated that ADSL would become available within the next 12 months and that this would immediately be exploited.

Chapter 3

**ASSESSMENT OF COMPETITIVE ADVANTAGE
AND PROFITABILITY**

Areas of ICT Business Benefits

This section identifies the range of perceived business benefits achieved by the businesses from their use of ICTs. In particular, SMTE participants were asked to identify the business benefits they derived from using ICTs from the following:

- enhancing operational efficiencies leading to cost saving
- increasing or generation extra revenue
- providing extra value for customers
- improving communication and decision-making
- strategic positioning
- developing new services/products.

Participants were asked two questions related to these benefits - which benefits they received from the use of ICTs and, of these, which was the primary benefit that they received. The responses to the first question (overall benefits) can be seen in Table 15. This question was not asked of Victorian focus group participants. The figures in brackets indicate the number of businesses that answered this question.

Table 15: Overall benefits from use of ICTs

Business benefit	ICT skill classification (%)			Overall Percentage
	Upper (12)	Middle (16)	Lower (8)	
Increased efficiency	100	88	63	86
Improved communications	67	88	88	81
Increased revenue	63	75	75	72
Extra value for customers	58	75	50	64
Improved decision making	58	75	50	64
Strategic Positioning	83	44	25	53
New product or service development	54	44	25	44

Not surprisingly, *increased efficiency and improved communications* were identified by more businesses as the benefits they received from ICT use. It was encouraging to see how many businesses also mentioned *increased revenue, extra value for customers and improved decision making* as business benefits. This means that many of the SMTEs that participated realised that ICTs can be used for more than just improving efficiencies and sending emails.

When examining the differences between the businesses identified as having different ICT skill levels, the picture changes a little. The proportion of those businesses classified as having *lower* ICT skill levels was the lowest for five of the seven business benefits identified. This is an interesting result. Note also the significant drop from *upper* to *lower* levels for the use if ICTs for *strategic positioning* and for *new product/ service development*.

The next question asked what the *primary* business benefit received from the use of ICTs was. These results, summarised into area and ICT skill classification, are shown in Table 16.

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Table 16: Primary benefits of ICTs

Business benefit	Area (%)		ICT skill classification (%)			Overall Percentage
	Metropolitan (20)	Rural (17)	Upper (12)	Middle (16)	Lower (7)	
Increased efficiency	40	29	33	44	29	37
Improved communications	30	6	17	19	29	20
Increased revenue	23	6	13	13	29	16
Extra value for customers	5	35	25	19	13	20
Improved decision making	-	6	8	-	-	3
Strategic positioning	-	-	-	-	-	-
New product or service development	3	6	4	-	-	1

Business benefits associated with strategic positioning, new products and decision-making is very limited. This is significant—it allows us to conclude that technology is being adopted but not applied in a strategic or value adding manner. This finding might indicate that operators perceive that these areas have a low priority in the running of their business, or indeed, there may be a lack of awareness of how to use ICT effectively as a strategic tool and to generate new products or services. The detailed responses to this question are shown in Appendix C (Table 20).

The order of the primary business benefits is similar to that for the overall benefits that were listed. One of the major differences is that *improved decision making*, which ranked equally with *extra value for customers*, does not maintain that level as a *primary* business benefit.

More metropolitan businesses identified increased efficiency and improved communications as their primary business benefit from the use of ICTs, whereas a greater proportion of rural businesses identified *extra value for customers* as their primary business benefit.

Comments gathered from participants allow some further understanding of how ICTs can be used to gain business benefits. The following accommodation provider nominated that one of the primary uses of ICTs was for increasing revenue generation in the marketing/sales area where:

The accommodation provider's website allowed for direct tour bookings that by-passed a third-party service provider, leading to financial saving on commissions. The website also directly was used to promote the business as a tourism destination. VM3

A business specialising in providing tourism attractions (artist/artwork) nominated that improved efficiency was a primary benefit of using ICTs and indicated that:

The adoption of the website had improved communication with clients, whilst the ability to generate electronic images by using a computer had assisted with basic business operations. VR3

ICT was used by one tour operator (VM4) to improving communication and enhance revenue generation where the owner/manager indicated that the website allowed the business to expand, allowing access to the international customer market. Furthermore, the tour manager indicated that enhanced revenue generation using ICTs was achieved through two areas:

The website's real-time booking system allows the owner to control the way tours are organised and determine when tours may be totally booked up. Previously, the business used a third party booking service that was cumbersome and prevented the business from running cohesively. The owner believes the website booking system gives the company an edge over other tour operators that do not have this facility directly on their website.

After many customers made numerous enquiries (email and phone) about purchasing tour gift vouchers, the business set up a section of the website to offer gift vouchers—allowing enquiries to not only be reduced, but also making other potential customers that visit the website aware of this type of service. VM4

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In one case (SAR10) adoption of online options to view accommodation and book a specific room was felt to have led to a change in clientele, from those seeking one-night low cost accommodation to ‘baby boomers’ who would book more expensive rooms and have longer stays.

Another business (SAR5) used a webcam to transmit live images from the attraction to a nearby café in order to bring more business to the attraction.

Theme C—use of ICTs in business operations

Business operational areas can be considered functional elements that are associated with the traditional business structure—be it in large or small organisations. The operational areas in this study included marketing, customer service, manufacturing, finance, Human Resource Management (HRM), supply chain and new product development. In smaller business entities these operational areas may not be clearly delineated by separate departments or business sections, and are generally an amalgam of activities that are singularly managed.

The use of ICT in various operational areas associated with tourism enterprises was investigated using a set of eight nominated descriptors. Table 17 summarises the operational areas that tourism operators used ICTs. Furthermore, the study was able to gauge the operational area that SMTEs perceived as providing the most business value when using ICTs. These results are also summarised in Table 17. In this table, the shaded areas indicate the range of operational areas benefiting from the use of ICTs, with an X indicating the primary benefit. Participants in the focus groups were only asked questions related to their primary area of benefit.

A quick glance at the shaded areas in the table will tell the reader that more businesses classified as being in the *upper* and *middle* ranges of ICT skills identified ICT use in the areas towards the right hand side of the table.

Table 17 summarises the operational areas by location and ICT skill classification. It is obvious that the most frequently identified areas of ICT use in the participating SMTEs were marketing, customer service and finance/accounting. **This is an interesting result**, as for many years small business studies have identified accounting applications as the predominant use of ICTs. Note however that the question asked about those areas that provide the most benefit to the business. Perhaps accounting applications are taken as a *given* these days. The results for *new product and service development* and *supply chain* reflect the earlier comment about the lack of identification of benefits in these areas by businesses that were classed in the *lower* level of ICT skills.

Table 17: Use of ICTs

Operational area	Area (%)		ICT skill classification (%)			Overall Percentage
	Metropolitan (20)	Rural (15)	Upper (11)	Middle (16)	Lower (7)	
Marketing	95	87	92	94	86	91
Customer Service	65	73	50	88	57	69
Finance/Accounting	65	60	58	62	71	63
New product/service development	30	15	33	25	-	23
Supply chain	20	13	33	12	-	17
Manufacturing	10	13	8	12	14	11
HRM	10	13	-	19	14	11
Other	5	13	-	6	-	9

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Table 12: Where ICTs provide most value

Code	Type	Our Expertise Classification	Operational Areas							
			Marketing	Customer Service	Manufacturing	Finance/Accounting	HRM	Supply Chain	New Product/Service Development	Other
VM6	Tour	Upper								
VM7	Attraction	Upper		X						
VM9	Attraction	Upper	X							
VR5	Attraction	Upper			X					
VR10	Other	Upper	X							
SAM6	Attraction	Upper	X							
SAM7	Accommodation	Upper	X							
SAM8	Attraction	Upper	X							
SAM10	Tour	Upper	X							
SAM11	Attraction	Upper				X				
SAR1	Accommodation	Upper	X							
SAR5	Attraction	Upper	X							
SAR8	Event	Upper		X						
VM2	Other	Middle	X							
VM3	Accommodation	Middle	X							
VM4	Tour	Middle	X							
VM10	Other	Middle								
VR1	Event	Middle	X							
VR3	Attraction	Middle		X						
VR4	Attraction	Middle		X						
VR6	Accommodation	Middle	X							
VR7	Tour	Middle	X							
VR8	Event	Middle		X						
VR9	Attraction	Middle	X							
SAM2	Attraction	Middle				X				
SAM3	Tour	Middle		X						
SAM5	Tour	Middle	X							
SAM9	Accommodation	Middle	X							
SAR3	Attraction	Middle				X				
SAR6	Accommodation	Middle	X							
SAR7	Other	Middle		X						
SAR9	Attraction	Middle								X
SAR10	Accommodation	Middle		X						
VM1	Event	Lower				X				
VM5	Tour	Lower		X						
VM8	Attraction	Lower								
VR2	Attraction	Lower	X							
SAM1	Tour	Lower		X						
SAM4	Other	Lower				X				
SAR2	Tour	Lower		X						
SAR4	Tour	Lower	X							

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Table 19 shows the responses where the participants were asked to identify the areas where they received their primary benefits. The three major areas were again identified in the same order, although *finance/accounting* really did drop quite a bit, especially when compared with *customer service* – and the drop was mainly in rural areas.

Table 19: Where ICTs provide most value by area

Operational area	Area (%)		ICT skill classification (%)			Overall Percentage
	Metropolitan (20)	Rural (20)	Upper (13)	Middle (20)	Lower (7)	
Marketing	55	50	62	55	29	52
Customer Service	20	40	18	35	43	30
Finance/Accounting	20	5	8	10	29	13
New product/service development	-	-	-	-	-	-
Supply chain	-	-	-	-	-	-
Manufacturing	-	5	8	-	-	3
HRM	-	-	-	5	-	-
Other	-	5	-	5	-	3

There were not many differences between the states on an overall basis. In SA, marketing (52%) and customer service (33%) were seen as the operational areas the derived the most benefit from the use of ICTs. This was similar to Victoria with marketing at 50% and customer service at 25%. Whilst 48% of SA businesses noted ICTs having value for finance, only 19% considered this of primary importance. This again is similar to Victoria where 60% identified ICTs of value to finance but only 5% of primary importance. Only 24% of tourism businesses in the SA sample and 10% in the Victoria sample identified functional areas other than marketing and customer service as primary value.

Theme D—modes for internal and external business communication

This section summarises the range of business communication modes used by the SMTEs with their employees, customers and suppliers and/or distributors (Refer Appendix C: Table 24). Again, businesses were asked to identify all of the means by which they communicate (shaded areas) and then the primary means of communication (marked with an 'X'). Note that businesses with only one employee did not identify a communication mode for employees and that focus group participants were not asked to identify *all* of the means by which they communicate.

Contact with employees occurred mainly via face-to-face communication and telephone/fax. The *primary* means contact with employees was face-to-face communication (84%), with some communication by telephone/fax (13%) and less via the Internet (4%). In SA, the use of SMS was being investigated by a small number of businesses where volunteer staff may be needed to deal with peaks in business.

However, the picture changes quite a bit in relation to communication with customers. The SMTEs were more likely to use a range of means to communicate, with the most popular primary means of communication still being face-to-face contact (41%), closely followed by telephone/fax (38%). One in five businesses (21%) suggested that the *Internet* was their primary means of communication with customers.

There was also a different picture in relation to communication to suppliers and distributors, where the situation changes quite markedly. Participants in the study relied less on face-to-face contact with suppliers and distributors and more on telephone/fax and the Internet for communication. In fact, the primary means of contact with suppliers and distributors by far was telephone/fax (66%), followed by the Internet (21% again, one in five businesses) and face-to-face contact (only 13%).

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The findings in this section are important as they highlight that SMTEs do not communicate with their employees and different external partners in the same way. The Internet is playing an important role in communications—especially in relation to communications with suppliers and distributors—but face-to-face communications (with employees) and telephone/fax communications (with external partners) still play the primary roles.

Theme E—sources of ICT skills

Research that has examined the adoption and use of information technology in the small business sphere has identified that one of the barriers encountered is associated with ICT skills acquisition and training. This study explored the issue of whether SMTEs operators perceived that they had a skill set that allowed them to address their current, as well as any future ICT requirements. Moreover, given the resource and time limitations associated with running a small business, the research identified the primary information and training sources that were used by SMTEs to improve their ICT skill base. Table 25 shows how SMTEs perceived their current and future ICT skills requirements as well as where they sourced their skills training. Note that focus group participants were not asked to identify their sources of ICT skills.

The most obvious finding is that most businesses sourced their ICT skills through a range of areas—the most popular being consultants, ‘other’ sources (previous work experience, product manuals and suppliers, other businesses/competitors and associations and the Internet), friends, training courses and family. Table 20 summarises ICT skill sources by area and ICT skill classification.

Table 20: ICT skill sources

ICT skill source	Area (%)		ICT skill classification (%)			Overall Percentage
	Metropolitan	Rural	Upper	Middle	Lower	
Consultants	50	40	42	50	43	46
Other	55	33	42	44	57	46
Friends	45	33	33	25	86	40
Courses	20	67	25	50	43	40
Family	20	53	8	44	57	34
Books	20	13	17	19	14	17
Magazines	10	13	17	13	-	11

It was expected from previous research that ‘informal’ means of sourcing ICT skills (namely, family and friends) would also be important sources in this study. These provide inexpensive, but not necessarily formal or trained, sources of ICT expertise. It is interesting to note that whilst prominent, they are not the most common sources. However, they are the most common source of ICT expertise in those businesses that were classified by the researchers as being at the *lower* end of ICT skills. On the positive side, however, is that a number of these businesses also rely on the use of consultants and training courses as sources of ICT skills. These results are summarised in Appendix C (Table 26).

Another interesting aspect of this study is that businesses that were identified in the *lower* range of ICT skills actually identified **more** sources of ICT skills than the other levels. These businesses identified an average of 3.0 different sources of ICT skill. Business in the *middle* range identified an average of 2.4 different sources and those in the *upper* range only identified an average of 1.8 different sources. This is definitely an unexpected finding and is worth following up.

Theme F—ICT practices

In this final section we examine some of the ICT practice of the SMTEs, specifically asking them how often they update their ICTs and if they have a recovery plan in place if their ICTs were to fail. These results are shown in Table 21.

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Table 21: ICT replacement strategy

ICT replacement strategy	Area (%)		ICT skill classification (%)			Overall Percentage
	Metropolitan	Rural	Upper	Middle	Lower	
Ongoing	15	30	8	35	14	23
6 months - <1 year	-	25	8	15	14	13
1–2 years	30	5	31	10	14	18
3–5 years	25	10	23	15	14	18
Infrequently	20	20	31	15	14	20
Never	5	10	-	5	30	8
Unsure	5	-	-	5	-	-
SMTEs with ICT recovery plan in place	74	73	82	75	57	74

In relation to having an ICT replacement strategy, 28% of all participants suggested that they replaced their ICTs infrequently or never. Nearly half (44%) of the businesses that were classified at the *lower* range of ICT skills were in this category, but there were still nearly one in three of the businesses that were classified at the *upper* level of ICT skills that only updated their ICTs on an infrequent basis. In contrast, SAR10, categorised as ‘middle’, has a rolling replacement strategy where any new machine is allocated to critical areas and older machines move to the back office. Within the sample population, there are five businesses that have been established for up to two years and, of these, two have never upgraded and two upgrade infrequently. This may be explained more by the fact that as recent businesses they are less likely to have needed to upgrade rather than suggesting any level of naivety.

In relation to recovery plans, around three in four businesses that participated indicated that they had recovery plans in case something should go amiss with their ICTs. This was highest in the businesses classed in the *upper* level of ICT skills, with eight out of ten of these businesses having a recovery plan in place. Again, the businesses classed at the *lower* level of ICT skills performed poorly here, with around four in ten of these businesses **not** having a recovery plan in place.

Chapter 4

ASSESSMENT OF ICTS IN SMTEs—ASPIRATIONS

Theme G—ICT Use—Regulation and Innovation

One of the aims of this project was to examine the types of applications that ICTs were used for, identify the innovative applications and examine the profiles of these businesses.

We know from this study (and many others) that applications such as accounting (record keeping) functions, word processing and email are used in the vast majority of Australian SMTEs. In this section we highlight those ICTs and applications that were not typical of the rest—that is, were innovative.

Table 2 and Table 23 show the innovative uses of ICTs that were identified in this report. In all, there were 16 businesses where we identified these uses—six in Victoria and 10 in South Australia. Both of the tables show a summary of some of the information we have already presented about each business, with the innovative use detailed in the last column.

We will now examine some of the attributes of the businesses where we identified innovative use. Businesses with innovative uses were split between *metropolitan* (seven) and *rural* (nine). However, *growth* businesses also represented the largest category of businesses in the study (43%) so this is not a strong trend with such a small number of businesses (16) being considered.

We would have expected that the level of ICT skills might influence whether or not a business employs an innovative use of ICTs. This certainly appears to be the case—as all of the businesses that were identified as having innovative uses of ICTs had *middle* or *upper* ICT skill classifications. This is an interesting result.

Most of the businesses with innovative uses of ICTs also had interactive websites (62%). Just under half of the participating businesses overall (49%) had interactive websites. It should be mentioned here that some of these were classified as an innovative use. Most of these had online bookings (which we did *not* classify as an innovative use in itself). One business (VR4) had no website, but we classed it as having an innovative use of ICTs as it used its database to remember customer preferences for personalised service.

In Table 24 we classify the innovative uses of ICTs according to different business strategies and newer technologies.

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Table 22: ICT use in Victoria

Code	Business Type	Business Focus	Size - (emp)	Age in yrs	Skill level classification	# of computers	Type of network	Type of Internet connection	Website	Innovative use of ICTs
VM3	Accommodation	Efficiency	6–19	3–5	Middle	2	Not networked	Wireless	Interactive	This business has an online booking system, which is not that unique, however they also operate an Internet café. In addition, they worked with competitors via email to identify non-paying customers.
VM4	Tour	Efficiency	1–5	3–5	Middle	2	Not networked	Wireless	Interactive	In this business the owner used a Blackberry to remain in touch whilst on the move. Also, the business has a MySpace and Facebook presence. The business has an online booking system.
VM6	Tour	Lifestyle	1–5	1–2	Upper	1	NA	ADSL	Interactive	This business uses Facebook to locate potential tour areas and uses Paypal for gift vouchers. It also has an online booking system.
VR3	Attraction	Efficiency/ Growth	1–5	>10	Middle	3	Not networked	ADSL	Information	This business can link to supplier databases online. It has special frame cutting software and associated hardware. It can generate a picture of how a picture will look in a frame before it is cut.
VR4	Attraction	Efficiency/ Growth	6–19	6–10	Middle	2	Not networked	ADSL	No website	This business uses industry based software to remember customer preferences for when they next visit.
VR5	Attraction	Lifestyle	1–5	>10	Upper	3	Cabled	ADSL	Information	This business uses quite sophisticated hardware and software that is connected with a remote site. When the temperature drops below a certain level, threatening the crops, the owner is notified by telephone. In addition, online research is conducted on new growing techniques and to find employees.

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Table 23: Innovative ICT use in South Australia

Code	Business Type	Business Focus	Size - (emp)	Age in yrs	Skill classification	# of computers	Type of network	Type of Internet connection	Website	Innovative use of ICTs
SAM2	Attraction	Growth	1-5	6-10	Middle	1	NA	ADSL	Interactive	Using discussion boards for networking relating to focus of attraction.
SAM5	Attraction	Growth	6-19	3-5	Middle	2	Not networked	ADSL	Interactive	Using ICTs to provide customers with access to instant photo printing as a record of their adventure activity.
SAM6	Attraction	Growth	6-19	>10	Upper	5	Not networked	ADSL	Interactive	Using Facebook to link people with common interest in focus of attraction.
SAM10	Tour	Growth	1-5	3-5	Upper	2	Not networked	ADSL	Interactive	Uses blog for customer feedback and You Tube for promotional videos. Currently establishing electronic loyalty cards in conjunction with other local businesses.
SAR1	Accommodation	Efficiency	1-5	6-10	Upper	2	Cabled	ADSL	Interactive	Uses blog for customer feedback and SMS to keep in touch with customers and inform them of events in region.
SAR5	Attraction	Lifestyle/ Growth	6-19	6-10	Upper	1	NA	Dial Up (ADSL not available)	Information	Uses SMS to manage rostering of volunteers. Currently installing web cams to a café (also owned by business) showing live images. Awaiting ADSL so that images can be placed on website.
SAR6	Accommodation	Growth	20-200	3-5	Middle	10	Cabled	ADSL	Interactive	Uses GPS for asset management.
SAR8	Event	Growth	1-5	6-10	Upper	2	Cabled	ADSL	Information	Currently investigating software that allows the management of space allocation required on a weekly basis.
SAR9	Attraction	Lifestyle	1-5	>10	Middle	4	Not networked	ADSL/ wireless	Information	Use Facebook and Skype to promote business. Currently investigating establishing business as hot spot to provide email and Internet access to customers.
SAR10	Accommodation	Growth	6-19	>10	Middle	4	Cabled	ADSL	Interactive	Available rooms can be viewed online and then preferred room booked directly. The business does not provide meals; it is currently looking at linking with local cafes/ restaurants so that latest menus are available online to customers.

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Table 24: Innovative uses of ICTs

Strategy	Area	Delivery Technology				
		ICT application	Website/email	Web 2.0	Mobile device	Other
Service-Oriented improvement	Added Value	Access to instant photo record of adventure activity (SAM5)	Discussion boards for networking related to major attraction (SAM2) Use of PayPal for gift vouchers (VM6)	Using Facebook to link people with common interest (SAM6); Use of blog for customer feedback (SAM10; SAR1)		Operate an Internet café as a value-added service (VM3)
	Personalisation	Use of industry based software to identify customer preferences for when they next visit the website (VR4)			Use of SMS to inform customers of events in region (SAR1)	
Business Process Improvement	Promotion	Linking attraction to café via webcam (SAR5)	Use of Skype to promote business (SAR9)	Adoption of a MySpace and Facebook presence (VM4; VM6; SAR9); Uses of YouTube for promotional videos (SAM10)		
	Order/Payment		Available rooms can be viewed and booked online (SAR10); Online booking system (VM3; VM4; VM6; SAR10)			
	Operations	Adoption and application of special ICT frame cutting software and associated hardware allowing the main business product to be examined before manufacture (VR3); Use of specific ICT hardware and software that allows remote monitoring of critical business level operations (VR5); Currently investigating software that allows the management of space allocation required on a weekly basis (SAR8)	Online research is conducted with respect to important business activities (new growing techniques) and also to find new employees (VR5)		Use of the Blackberry device to remain in touch whilst on the move (VM4)	Use of GPS for asset management (SAR6)
Collaboration			Use of email to communicate with competitors about non-paying customers (VM3); Use of electronic links to supplier databases (VR3); Looking at linking with local cafes to list their menus on website (SAR10)			Currently establishing loyalty cards with other local businesses (SAM10)

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ICT use—‘best practice’

Another aim of the study was to identify ten ‘best practice’ cases of ICT use (five from Victoria and five from South Australia). We contend that it is possible that businesses with the most innovative solutions (as identified in the previous section), may not necessarily be following best ICT practice. From the answers provided by participants in the study, we have developed a score for ‘best practice’ by taking into account four different areas of ‘good’ ICT practice. These four areas are:

1. Our classification of **ICT skill level**—the results already reported from this study suggest that businesses we classified in the lower ICT skill classification seem to be disadvantaged in a number of areas. Certainly, it is reasonable to assume that pursuit of ICT skills can only be advantageous to an SMTE.
2. How often the businesses **review their ICTs** with the thought of upgrading. We would expect businesses to have an upgrade plan of some sort; even if it is not to upgrade ICTs in the short term. Therefore, a business would be seen to be following good practice if it consistently reviews its use of ICTs.
3. Whether businesses have a **recovery plan** if their ICTs fail. This is essential and the existence of a plan is evidence of good practice.
4. Whether businesses **evaluate the success** of their ICTs and if they have any formal methods for doing so. ICT investments should be evaluated as per any other business investment—and the existence of such evaluation procedures is evidence of good ICT practice.

For each of these four factors, we have awarded a score out of four for each business on the basis of ‘good’ practice (one point being allocated for each ‘good’ practice factor). Table 25 shows the classification system that was used. Note that for each ‘good’ practice factor, businesses can be awarded a score of 1 (where there is a green cell), 0.5 (for an amber cell) or -1 (for a red cell). Where a cell has no colour then a score of 0 is assumed. The cells were coloured according to the following schedule:

Table 13: Good ICT practice activities

Good ICT practice factor	Green classification	Amber classification	Red classification
ICT skill level	Upper	Middle	Lower
ICT review/upgrade plan	Ongoing; 6 months–1 year; 1–2 years		Unsure; infrequent; never
ICT recovery plan	Yes		No
Evaluation of success of ICTs	Definite measure of success	Some sign of recognition of ICT benefits	No indication at all of measuring success

Table 26 shows the business with the highest ‘best’ practice rating those with scores of 3.5 or more.

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Table 26: Best ICT Practice businesses

Code	Type	Primary business focus	Size (emp)	Business Age (yr)	Innovative use identified?	ICT Skill Classification	Review ICTs?	Recovery plans	Evaluate ICT success	Formal method to measure success?	BEST PRACTICE RATING
VM7	Attraction	lifestyle	1-5	>10		Upper	3-5 yrs	Yes	Sales from website; faster bookkeeping	Some (e.g. sales)	3.5
VM9	Attraction	efficiency	1-5	6-10		Upper	1-2 yrs	Yes	Sales from website; online statistics		4
VR1	Event	lifestyle	1-5	3-5		Middle	6 mths-1 year	Yes	Key part of business	Measure # of enquiries and bookings for events	3.5
VR3	Attraction	efficiency/growth	1-5	>10	YES	Middle	Ongoing	Yes	Yes - check margins	Use reports	3.5
SAM2	Attraction	growth	1-5	6-10	YES	Middle	1-2 yrs	Yes	If they work and do the job	Used to track what is selling, average prices and spending	3.5
SAM10	Tour	growth	1-5	3-5	YES	Upper	1-2 yrs	Yes	Does the product fit the business; is it secure	No	3.5
SAM11	Attraction	efficiency	1-5	>10		Upper	1-2 yrs	Yes	Product appropriate for business, secure	No	3.5
SAR5	Attraction	lifestyle/growth	6-19	6-10	YES	Upper	Ongoing	Yes	Increase in number of customers	Not yet developed, currently incorporated as part of business plan	3.5
SAR6	Accommodation	growth	20-200	3-5	YES	Middle	Ongoing	Yes	Cost savings; efficiencies	Efficiencies, cost savings on marketing	3.5
SAR7	Other	efficiency	1-5	>10		Middle	Ongoing	Yes	Business generated through ICTs	Regular checks for increased sales	3.5
SAR9	Attraction	lifestyle	1-5	>10	YES	Middle	1-2 yrs	Yes	Time saving	Monthly meetings and reviews, web site	3.5
SAR10	Accommodation	growth	6-19	>10	YES	Middle	Ongoing	Yes	Necessity, so not an issue	Normal part of business operations	3.5

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Tables 27 and 28 show the ‘best’ practice scores for all of the businesses that participated in the study.

Some comments on this data:

- Eight of the 12 businesses listed here as having ‘best’ ICT practice also were identified as having innovative ICT practices.
- That means that half of the businesses that were identified as having innovative practices were seen to have ‘best’ ICT practice. Of the other eight businesses, five scored quite well (between 2.5 and 3), one business had a score of 1—but two businesses had negative scores—with one having the lowest score of all of the 41 businesses for ‘best’ practice. This means that whilst being an innovative use of ICTs seems to hand in hand with ‘best’ ICT practice, it is not a guarantee.
- Five metropolitan and seven rural businesses were identified as exhibiting ‘best’ ICT practice.
- There appear to be no strong indicator that the type of business; primary business focus or size of the business would suggest ‘best’ practice use.
- However, it is interesting that all of the businesses that exhibit ‘best’ ICT practice have been in existence for three or more years. This could indicate that there is a level of maturity associated with ‘best’ ICT practice.

Summary

This study has highlighted a number of important areas that should be considered by SMTEs in their use of ICTs. Having a reasonable level of ICT skills within the business appears to be an important factor in effective and innovative ICT use in SMTEs. For instance, those businesses classified as having *middle or upper* level ICT skills were more likely to have interactive websites. Those businesses classified as having *middle or upper* level ICT skills were more likely to have innovative uses of ICTs in their businesses.

Those businesses classified as having *middle or upper* level ICT skills were more aware of the strategic benefits that ICTs could provide to their businesses. We know from this study that SMTEs typically source their expertise from a number of different sources. Businesses classified at the *lower* level of ICT skills tended to source more of these skills from informal (and cheaper) sources, such as family and friends. It might be in their interest to also take advantage of more formal sources of expertise, such as consultants and training courses that may be able to relate the business benefits of ICTs more effectively.

There appears to be a maturity factor evident in the use of ICTs—again those effective and innovative uses of ICTs go hand in hand with more mature businesses, especially those that have used ICTs for a period of time. The most frequently identified areas of ICT use in the participating SMTEs were marketing, customer service and finance/accounting. For many years, small business studies have identified accounting applications as the predominant use of ICTs. Again, an awareness of more strategic benefits that ICTs may provide is important. When thinking of their online presence, SMTEs need to be aware of how they wish to communicate with their employees, customers, suppliers and distributors. Our results showed clear differences between how SMTEs communicate with these groups, and different ICTs (telephone, fax and Internet technologies such as email) all have a role to play in different ways with face-to-face communication.

In this study we typified ‘best’ ICT practice as those businesses that had middle or upper level ICT skills, reviewed their ICT use on a regular basis, had an ICT recovery plan and evaluated the success of their ICTs. Whilst many businesses scored quite well in this regard, only one of the 41 businesses that we examined actually received a *perfect* score for best ICT practice. We believe that SMTEs would benefit from being made aware of the ‘good’ ICT practices that lead to ‘best’ practice. A number of businesses were identified in his study as employing innovative uses of ICTs. For the most part, this was hand-in-hand with ‘best’ (or at least ‘good’) ICT practice. However, the results in the study also indicated that a business having innovative use of ICTs did not guarantee that it followed ‘best’ ICT practice.

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Table 27: Best ICT practice—Victoria

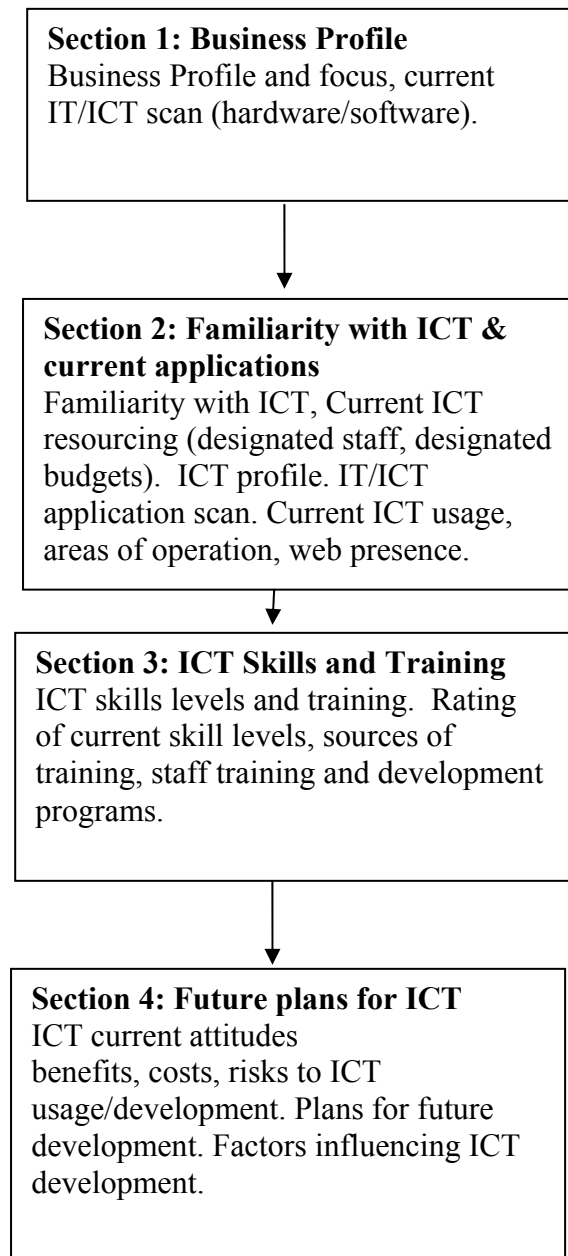
Code	Type	Primary business focus	Size (emp)	Business Age (yr)	Innovative use?	Our Expertise Classification	How often review ICTs?	Recovery plans	Evaluate ICT success	Formal method to measure success?	Best Practice Rating
VM1	Event	Growth	6–19	6–10		Lower	1–2 years	Yes	Not really measured; part of business	No	1
VM2	Other	Efficiency	1–5	>10		Middle	3–5 years	No	They improve efficiencies	None considered	0
VM3	Accommodation	Efficiency	6–19	3–5	YES	Middle	Infrequently	No	Do not know; part of business	No	-2.5
VM4	Tour	Efficiency	1–5	3–5	YES	Middle	Ongoing	No	Applications must be simple to use	No - some improvements in efficiencies	1
VM5	Tour	Growth	1–5	3–5		Lower	3–5 years	Yes	Gut feeling; they are "pretty good"	No	0.5
VM6	Tour	Lifestyle	1–5	1–2	YES	Upper	1–2 years		Success- 6 or 7 out of 10	No	2.5
VM7	Attraction	Lifestyle	1–5	>10		Upper	3–5 years	Yes	Sales from website ; faster bookkeeping	Some (e.g. sales)	3.5
VM8	Attraction	Efficiency	1–5	>10		Lower			None	No	-3
VM9	Attraction	Efficiency	1–5	6–10		Upper	1–2 years	Yes	Sales from website; online statistics	<-- Yes	4
VM10	Other	Growth	1–5	3–5		Middle	Unsure	No	Saves time	No	-1
VR1	Event	Lifestyle	1–5	3–5		Middle	6 mths–1year	Yes	Key part of business	Yes - measure # of enquiries and bookings for events	3.5
VR2	Attraction	Lifestyle	1–5	>10		Lower	Infrequently	Yes	They are 'amazing' - but no success measure	No	-1
VR3	Attraction	Multiple	1–5	>10	YES	Middle	Ongoing	Yes	Yes - check margins	Use reports	3.5
VR4	Attraction	Multiple	6–19	6–10	YES	Middle	6 mths–1year	Yes	Gut feeling; it doesn't crash; they save time	No	3
VR5	Attraction	Lifestyle	1–5	>10	YES	Upper	3–5 years	Yes	They are successful when they are running	No	2.5
VR6	Accommodation		1–5	3–5		Middle	3–5 years		Know where bookings come from	<-- Yes	1.5
VR7	Tour		1–5	6–10		Middle	Ongoing		Know where enquiries come from	<-- Yes	1
VR8	Event		1–5	>10		Middle	Infrequently			No	-1
VR9	Attraction		1–5			Middle	6 mths–1year			No	0.5
VR10	Other		1–5	3–5		Upper	Infrequently		Maybe - not sure	No	0

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Table 28: Best ICT practice—South Australia

Code	Type	Primary business focus	Size (emp)	Business Age (yr)	Innovative use?	Our Expertise Classification	How often review ICTs?	Recovery plans	Evaluate ICT success	Formal method to measure success?	Best practice rating
SAM1	Tour	Lifestyle	1-5	6-10		Lower	Ongoing	Yes	Track bookings	Increased sales	3
SAM2	Attraction	Growth	1-5	6-10	YES	Middle	1-2 years	Yes	If they work and do the job	Used to track sales, average prices	3.5
SAM3	Tour	Lifestyle	6-19	6-10		Middle	Ongoing	Yes	No	No	1.5
SAM4	Other	Lifestyle	6-19	6-10		Lower	Never	No	How useful they are; efficiency	Feedback from customers	-2
SAM5	Tour	Growth	6-19	3-5	YES	Middle	3-5 years	Yes	Part of continued growth	Customer feedback	3.5
SAM6	Attraction	Growth	6-19	>10	YES	Upper	3-5 years	Yes	Couldn't do without them	No	3
SAM7	Accommodation	Lifestyle	6-19	1-2		Upper	Infrequent	Yes	Business run well	No	1.5
SAM8	Attraction	Growth	20-200	1-2		Upper	Infrequent	Yes	Not sure; efficiency	No	1
SAM9	Accommodation	Efficiency	1-5	3-5		Middle	Infrequent	Yes	Number of bookings	Number of bookings	1.5
SAM10	Tour	Growth	1-5	3-5	YES	Upper	1-2 years	Yes	Do ICTs fit the business?	Are they secure?	3.5
SAM11	Attraction	Efficiency	1-5	>10		Upper	1-2 years	Yes	Appropriate for business	Is it secure?	3.5
SAR1	Accommodation	Efficiency	1-5	6-10	YES	Upper	6 mths-1yr	No	Costs known; benefits must be tangible	Evaluate cost of ICTs	2
SAR2	Tour	Lifestyle	1-5	3-5		Lower	6 mths-1yr	No	Paper records important, PDA useful	No	-0.5
SAR3	Attraction	Lifestyle/ Growth	1-5	1-2		Middle	Never	Yes	Time saving; thoroughness, accuracy	Quality of locally printed gift vouchers	2
SAR4	Tour	Growth	1-5	1-2		Lower	Never	No	Vital to business	Not specifically for ICTs	-2.5
SAR5	Attraction	Lifestyle/ Growth	6-19	6-10	YES	Upper	Ongoing	Yes	Increase in number of customers	Currently incorporated as part of business plan	3.5
SAR6	Accommodation	Growth	20-200	3-5	YES	Middle	Ongoing	Yes	Cost savings; efficiencies	Efficiencies, cost savings	3.5
SAR7	Other	Efficiency	1-5	>10		Middle	Ongoing	Yes	Business generated through ICTs	Check for increased sales	3.5
SAR8	Event	Growth	1-5	6-10	YES	Upper	Infrequent	No	Past experience; limited budget, limited ICTs; conscious of useful ICTs	No	-0.5
SAR9	Attraction	Lifestyle	1-5	>10	YES	Middle	1-2 years	Yes	Time saving	Monthly reviews, web site	3.5
SAR10	Accommodation	Growth	6-19	>10	YES	Middle	Ongoing	Yes	Necessity so not an issue	Normal part of operations	3.5

APPENDIX A: SMTE QUESTIONNAIRE FLOW CHART



APPENDIX B: DRAFT QUESTIONNAIRE

Information Communication Technology (ICT) Questionnaire

This survey seeks to understand your business's plans, infrastructure, experience, and capability in the area of Information Communication Technology (ICT). This survey will require 15–30 minutes to complete.

Section 1: About you and your business

1. Your Position: _____

CEO or owner	Manager	IT Manager	Office Manager	Other
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Are you personally very involved in management of our ICT resources
 Yes No If No, who is (job position)? _____

2. How would you describe your business type? (Please tick one only)

Accommodation	Event	Tour	Restaurant	Attraction	Other
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. How many staff do you have? 1–5 6–10 11–15 16–20 >20

4. How would you describe your primary market focus? (Please tick ONE only)

Local State National International

5. How would you describe your business focus? (Please tick ONE only)

Lifestyle Efficiency Growth Other (please specify): _____

6. How long have you been using ICTs in your business? (Leave blank if you do not use ICTS)

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Section 2.1: Familiarity and understanding of ICTs

7. Are you broadly familiar with the following ICTs (please tick if yes)?

- Email Internet Fax Mobile Phone
 Web page

8. How would you describe your practical understanding of these ICTs? _____

9. Are you broadly familiar with the following ICTs? (please tick)?

- VOIP PDA (e.g.
Blackberry) Video
Conferencing Social
Networking (e.g.
Facebook,
MySpace)

10. How would you describe your practical understanding of these ICTs?

Section 2.2: Current ICT Applications (only answer this section if you use ICTs in your business)

11. How many Desktop PCs do you currently have? _____

12. How many Notebook or portable computers do you currently have? _____

13. Are they networked? Yes No
If yes, what type of network do you have (e.g. Wireless, Cable) _____

14. What operating system do you predominantly use?
 Windows 200x Windows XP Windows Vista Mac don't know
 Other (please specify): _____

15. Do you have Internet access? Yes No
If yes, what type of access do you have?
 ADSL ADSL2+ Satellite dial-up Other (please specify)

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16. How would you rate your satisfaction with your Internet Provider?

Very dissatisfied	Dissatisfied	Neither dissatisfied nor satisfied	Satisfied	Very Satisfied
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments: _____

17. What is the company policy for Internet access (web surfing, e-mail/webmail etc.)?

CEO Only	Senior staff only	All staff	Central PC terminal
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18. Does the business have a website?

Yes, hosted by web-hoster Yes, hosted on own server No

19. What is the e-mail account system used for the office?

1 common company account for all staff	Individual accounts for senior staff	Individual accounts for all staff
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20. What applications/software are you currently using? (tick all that apply)

Admin

<input type="checkbox"/> Word Processing	<input type="checkbox"/> Spreadsheet (e.g. Excel)	<input type="checkbox"/> Presentation (e.g. PowerPoint)	<input type="checkbox"/> Database
---	--	--	-----------------------------------

Others: _____

Accounts

<input type="checkbox"/> MYOB	<input type="checkbox"/> Quickbooks
-------------------------------	-------------------------------------

Other accounting package: _____

Others

<input type="checkbox"/> Meeting Scheduler	<input type="checkbox"/> Timesheets	<input type="checkbox"/> Adobe (PDF)	<input type="checkbox"/> Photoshop (or similar)
<input type="checkbox"/> Internet	<input type="checkbox"/> Web-design	<input type="checkbox"/> MS project	<input type="checkbox"/> Statistics (SPSS)
<input type="checkbox"/> Design assistance	<input type="checkbox"/> Inventory management	<input type="checkbox"/> Production scheduling	

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ICTs

- PDA VOIP (e.g. Skype) Social networking (e.g. Facebook) Online auctions/markets

21. How does your business acquire ICT support (crashes, network problem, PC system problem, etc.)?

- Own Support Staff (IT qualified) Own Support Staff (IT non-qualified) Outsourced (regular maintenance) Ad-hoc

Other: _____

22. Does the company have a written and implemented ICT policy (back-ups, security, OS versions, configuration, etc.)?

- Yes, implemented and adhered to strictly Yes, implemented loosely No written ICT policy

23. Do you have a designated annual ICT budget? Yes No

If yes, please indicate range: <\$1000 pa \$1000–\$2000pa \$2000–\$5000pa >\$5000pa

24. Approximately what proportion of your annual turnover would you spend on ICT?

_____ %

25. Please indicate (tick) your current levels of ICT usage with suppliers

- We use e-mail to communicate with our suppliers We use Electronic Data Exchange to communicate with our suppliers We use supplier homepages for locating information and documentation
- We actively use the Internet to search for new suppliers via the Internet We are able to receive electronic documents, invoices, delivery notices etc. We use electronic auctions and E-markets
- We undertake research and new product development using the Internet

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26. Please indicate (tick) your current levels of ICT usage with customers/visitors

- | | | |
|--|---|--|
| <input type="checkbox"/> We use e-mail to communicate with our customers/visitors | <input type="checkbox"/> We use our web page for advertising or services/products | <input type="checkbox"/> We use external websites for advertising or services/products |
| <input type="checkbox"/> We actively use the Internet to search for new clients/visitors | <input type="checkbox"/> We can communicate with our clients/visitors via our website | <input type="checkbox"/> We are able to receive electronic bookings via our website |
| <input type="checkbox"/> Clients/visitors can purchase products (e.g. gift certificates) via our website | | |

Section 3: IT/ICT Skills and Training

27. Where did/do you receive your own IT training/experience? (tick any that apply)

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| School | TAFE/Uni | Self-taught | On-job experience | Friends/family |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Other: _____

28. Who currently provides your staff with their IT/ICT training? (tick any that apply)

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| In-house | External consultants | Industry workshops | Suppliers | No training provided |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Other: _____

29. Where would you go if you wished to provide IT training for your self/staff? (tick any that apply)

- | | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Own research | Staff research | Industry workshops | Suppliers | Service providers | Don't know |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Other: _____

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30. Who currently provides you with your information regarding ICT innovations such as available technologies, software applications, or new initiatives within your industry? (tick any that apply)

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Own research | Staff research | Industry workshops | Suppliers | Service providers |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Other: _____

Section 4: Future plans for ICT development

31. Which of these four options represents your future plans regarding ICT development? (Please tick one only)

- We have a good suite of software applications and we are currently use ICTs in our business
- We actively look for new ways of enhancing our efficiency using ICTs and the Internet for our business
- We need to invest in software systems so that we can engage in Internet-based communication
- We have chosen not to pursue these options in near future

Do you have any plans to further develop your ICT capabilities? Yes No
If yes, what would you like to accomplish?

32. Would you consider using the Internet for any of the following?

- | | | |
|--|--|---|
| <input type="checkbox"/> To search for new suppliers | <input type="checkbox"/> To receive electronic documents, invoices, delivery notices etc | <input type="checkbox"/> For automatic electronic communication with suppliers |
| <input type="checkbox"/> To utilise electronic auctions and markets for purchasing | <input type="checkbox"/> To developing electronic inventories within the organisation | <input type="checkbox"/> To undertake research product development via the Internet |
| <input type="checkbox"/> To use the Internet as a tool for streamlining purchasing | Other (please specify) _____
_____ | |

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33. Where would you go to find information on new ICTs? (Tick all that apply)

Books/magazines	Websites	Industry representatives	Technical Suppliers	Service providers (e.g. Telstra)	Don't know
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other: _____

Thank you for your participation in this survey

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APPENDIX C: TABLES

Table A1: SMTE levels of ICT expertise

Code	Type	Years using ICT	Familiarity with basic ICTs	Under-standing of basic ICTs	Familiarity with newer ICTs	Under-standing of newer ICTs	Can identify operating system?	Our Expertise Classification
VM1	Event	6–10	Some	Inexperienced	No	Inexperienced	Not sure	Lower
VM2	Other	>10	Some	Intermediate	Some	Inexperienced	Win XP	Middle
VM3	Accommodation	>10	Yes	Intermediate	Some	Inexperienced	Win XP	Middle
VM4	Tour	3–5	Yes	Intermediate	Some	Intermediate	Win XP	Middle
VM5	Tour	3–5	Yes	Intermediate	No	Inexperienced	Not sure	Lower
VM6	Tour	1–2	Yes	Expert	Yes	Intermediate	Win XP	Upper
VM7	Attraction	>10	Yes	Intermediate	Yes	Intermediate	-	Upper
VM8	Attraction	Unsure	No	Inexperienced	No	Inexperienced	Don't use	Lower
VM9	Attraction	>10	Yes	Expert	Yes	Inexperienced	Win XP	Upper
VM10	Other	3–5	Yes	Expert?	Yes	Intermediate	Not sure	Middle
VR1	Event	3–5	Yes	Intermediate	Some	Intermediate	Not sure	Middle
VR2	Attraction	3–5	Yes	Inexperienced	No	Inexperienced	Vista	Lower
VR3	Attraction	6–0	Yes	Intermediate	Some	Inexperienced	Not sure	Middle
VR4	Attraction	3–5	Yes	Expert	Yes	Intermediate	Not sure	Middle
VR5	Attraction	>10	Yes	Expert	Yes	Expert	Win XP	Upper
VR6	Accommodation	3–5	Yes	Intermediate	No	Inexperienced	Win XP	Middle
VR7	Tour	6–0	Yes	Intermediate	Some	Inexperienced	Win XP	Middle
VR8	Event	3–5	Yes	Intermediate	No	Inexperienced	Win XP	Middle
VR9	Attraction	3–5	Yes	Intermediate	No	Inexperienced	Win XP	Middle
VR10	Other	>10	Yes	Expert	Yes	Inexperienced	Win XP	Upper
SAM1	Tour	6–10	Some	Intermediate	No	Inexperienced	Win XP	Lower
SAM2	Attraction	6–10	Yes	Intermediate	Some	Inexperienced	Vista	Middle
SAM3	Tour	3–5	Yes	Intermediate	Yes	Inexperienced	Win XP	Middle
SAM4	Other	1–2	Yes	Inexperienced	No	Inexperienced	Win XP	Lower
SAM5	Tour	3–5	Yes	Inexperienced	Yes	Inexperienced	Windows	Middle
SAM6	Attraction	6–10	Yes	Intermediate	Yes	Intermediate	Windows	Upper
SAM7	Accommodation	1–2	Yes	Expert	Yes	Intermediate	Windows	Upper
SAM8	Attraction	1–2	Yes	Intermediate	Yes	Intermediate	Windows	Upper
SAM9	Accommodation	3–5	Yes	Intermediate	No	Inexperienced	Mac	Middle
SAM10	Tour	3–5	Yes	Intermediate	Yes	Intermediate	Win XP	Upper
SAM11	Attraction	6–10	Yes	Intermediate	Yes	Intermediate	Win XP	Upper
SAR1	Accommodation	6–10	Yes	Intermediate	Yes	Intermediate	Win XP	Upper
SAR2	Tour	3–5	Yes	Intermediate	Some	Inexperienced	Win XP	Lower
SAR3	Attraction	1–2	Yes	Intermediate	No	Inexperienced	Win XP	Middle
SAR4	Tour	1–2	Yes	Inexperienced	Some	Inexperienced	Not sure	Lower
SAR5	Attraction	3–5	Yes	Expert	Yes	Intermediate	Win XP	Upper
SAR6	Accommodation	3–5	Yes	Intermediate	Some	Inexperienced	Other	Middle
SAR7	Other	3–5	Yes	Expert	No	Inexperienced	Win XP	Middle
SAR8	Event	6–10	Yes	Expert	Yes	Intermediate	Win XP	Upper
SAR9	Attraction	>10	Yes	Intermediate	Yes	Inexperienced	Mac	Middle
SAR10	Accommodation	>10	Yes	Intermediate	Some	Intermediate	Win XP	Middle

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Table A2: Classification of ICT expertise ratings

Question	Response that qualifies cell to be shaded 'red'	Response that qualifies cell to be shaded 'green'
Familiar with basic ICTs? (list provided)	No; Some	-
Understanding of basic ICTs	Inexperienced	Expert
Familiar with newer ICTs? (list provided)	No	Yes
Understanding of newer ICTs	-	Intermediate; Expert
Can identify operating system?	Not sure	-

Where a business has two or more red cells (and no green) in Table 29 it has been given a *lower* ICT expertise classification. Where a business has two or more green cells (and no reds) it has been given an *upper* classification. All of the remaining businesses have been given a *middle* ICT expertise classification. It must be noted at this point that this rating was based on a limited data set and in some cases on the perceptions of interviewees. A number of issues that would indicate level of expertise had not been considered for this classification.

Table A3: SMTE adoption of ICT

Code	Type	Our Expertise Classification	Business computers and connection type		Internet Main Access Point/Type of Service		Website: type of site
			Computers (N)	Type of network	Internet Access	Type of Access	
VM6	Tour	Upper	1	Not Applicable	Home/Work	ADSL	Interactive
VM7	Attraction	Upper	1	Not Applicable	Home	ADSL	Interactive
VM9	Attraction	Upper	2	Cabled	Home/Work	ADSL	Interactive
VR5	Attraction	Upper	3	Cabled	Home/Work	ADSL	Information
VR10	Other	Upper	-*	Cabled	-	ADSL	Interactive
SAM6	Attraction	Upper	5	Not networked	Work	ADSL	Interactive
SAM7	Accommodation	Upper	5	Cabled	Work	ADSL	Information
SAM8	Attraction	Upper	20	Mix	Work	ADSL	Information
SAM10	Tour	Upper	2	Not networked	Home/work	ADSL	Interactive
SAM11	Attraction	Upper	2	Not networked	Home/work	ADSL	Information
SAR1	Accommodation	Upper	2	Cabled	Home/work	ADSL	Interactive
SAR5	Attraction	Upper	1	Not applicable	Home/work	Dial up	Information
SAR8	Event	Upper	2	Cabled	Work	ADSL	Information
VM2	Other	Middle	2	Not Networked	Home/Work	Wireless	Information
VM3	Accommodation	Middle	2	Not Networked	Work	Wireless	Interactive
VM4	Tour	Middle	2	Not Networked	Home/Work	Wireless	Interactive
VM10	Other	Middle	2	Not Networked	Work	Don't know	No website
VR1	Event	Middle	1	Not Applicable	Home/Work	ADSL	Information
VR3	Attraction	Middle	3	Not Networked	Work	ADSL	Information
VR4	Attraction	Middle	2	Not Networked	Home/Work	ADSL	No website
VR6	Accommodation	Middle	-*	Not Networked	-	ADSL	Interactive

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Code	Type	Our Expertise Classification	Business computers and connection type		Internet Main Access Point/Type of Service		Website: type of site
			Computers (N)	Type of network	Internet Access	Type of Access	
VR7	Tour	Middle	-*	Not Networked	-	ADSL	Interactive
VR8	Event	Middle	-*	Wireless	-	ADSL	Information
VR9	Attraction	Middle	-*	Wireless	-	ADSL	Interactive
SAM2	Attraction	Middle	1	Not applicable	Work	ADSL	Interactive
SAM3	Tour	Middle	3	Cabled	Home/work	ADSL	Interactive
SAM5	Tour	Middle	2	Not networked	Work	ADSL	Interactive
SAM9	Accommodation	Middle	1	Not applicable	Work	ADSL	Interactive
SAR3	Attraction	Middle	1	Not applicable	Work	ADSL	Other
SAR6	Accommodation	Middle	10	Cabled	Work	ADSL	Interactive
SAR7	Other	Middle	4	Cabled	Home/work	ADSL	Interactive
SAR9	Attraction	Middle	4	Not networked	Home/work	ADSL/wireless	Information
SAR10	Accommodation	Middle	4	Cabled	Home/work	ADSL	Interactive
VM1	Event	Lower	4	Wireless	Home/Work	Don't know	Interactive
VM5	Tour	Lower	1	Not Applicable	Work	Don't know	Information
VM8	Attraction	Lower	0	Not Networked	No Access	None	No website
VR2	Attraction	Lower	1	Not Applicable	Home/Work	ADSL	Information
SAM1	Tour	Lower	1	Not applicable	Home/work	ADSL	Information
SAM4	Other	Lower	2	Not networked	Home/work	Dial up	Information
SAR2	Tour	Lower	3	Cabled	Home/work	ADSL	Information
SAR4	Tour	Lower	1	Not applicable	Work	Don't know	Information

Note: this question was not asked in focus groups

Table A4: ICT business benefits

Code	Type	Our Expertise Classification	ICT Business Benefits						
			Improved efficiency	Increased Revenue	Extra Customer Value	Improved Communication	Decision Making	Strategic Positioning	New Product/ Service Development
VM6	Tour	Upper	X						
VM7	Attraction	Upper				X			
VM9	Attraction	Upper	X						
VR5	Attraction	Upper					X		
VR10	Other	Upper							
SAM6	Attraction	Upper	X						
SAM7	Accommodation	Upper		X					
SAM8	Attraction	Upper		X					X
SAM10	Tour	Upper				X			
SAM11	Attraction	Upper	X						

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Code	Type	Our Expertise Classification	ICT Business Benefits						
			Improved efficiency	Increased Revenue	Extra Customer Value	Improved Communication	Decision Making	Strategic Positioning	New Product/Service Development
SAR1	Accommodation	Upper			X				
SAR5	Attraction	Upper			X				
SAR8	Event	Upper			X				
VM2	Other	Middle	X						
VM3	Accommodation	Middle		X					
VM4	Tour	Middle		X					
VM10	Other	Middle	X						
VR1	Event	Middle			X				
VR3	Attraction	Middle	X						
VR4	Attraction	Middle			X				
VR6	Accommodation	Middle		X					
VR7	Tour	Middle		X					
VR8	Event	Middle							
VR9	Attraction	Middle							
SAM2	Attraction	Middle	X						
SAM3	Tour	Middle				X			
SAM5	Tour	Middle	X						
SAM9	Accommodation	Middle				X			
SAR3	Attraction	Middle							X
SAR6	Accommodation	Middle	X						
SAR7	Other	Middle			X				
SAR9	Attraction	Middle				X			
SAR10	Accommodation	Middle	X						
VM1	Event	Lower				X			
VM5	Tour	Lower				X			
VM8	Attraction	Lower							
VR2	Attraction	Lower		X					
SAM1	Tour	Lower		X					
SAM4	Other	Lower			X				
SAR2	Tour	Lower	X						
SAR4	Tour	Lower	X						

**HELPING SMTEs PLAN AND IMPLEMENT
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Table A5: Business communication modes

Code	Type	Our Expertise Classification	Communication with Employees (Internal)			Communication with Customers (External)			Communication with Suppliers/Distributors (External)		
			Face-to-face	Tel/fax	Internet	Face-to-face	Tel/fax	Internet	Face-to-face	Tel/fax	Internet
VM6	Tour	Upper									X
VM7	Attraction	Upper				X			X		
VM9	Attraction	Upper				X			X		
VR5	Attraction	Upper	X			X				X	
VR10	Other	Upper	X			X				X	
SAM6	Attraction	Upper	X			X				X	
SAM7	Accommodation	Upper	X				X			X	
SAM8	Attraction	Upper	X			X				X	
SAM10	Tour	Upper			X			X	X		X
SAM11	Attraction	Upper	X			X				X	
SAR1	Accommodation	Upper	X				X			X	
SAR5	Attraction	Upper	X			X				X	
SAR8	Event	Upper		X				X		X	
VM2	Other	Middle	X			X					
VM3	Accommodation	Middle	X				X			X	
VM4	Tour	Middle		X				X			X
VM10	Other	Middle	X			X				X	
VR1	Event	Middle						X		X	
VR3	Attraction	Middle	X			X				X	
VR4	Attraction	Middle	X			X					
VR6	Accommodation	Middle						X			
VR7	Tour	Middle	X					X		X	
VR8	Event	Middle					X				X
VR9	Attraction	Middle					X				X
SAM2	Attraction	Middle	X			X					X
SAM3	Tour	Middle	X				X			X	
SAM5	Tour	Middle	X				X			X	
SAM9	Accommodation	Middle	X				X			X	
SAR3	Attraction	Middle	X			X				X	
SAR6	Accommodation	Middle	X				X			X	
SAR7	Other	Middle	X			X					X
SAR9	Attraction	Middle	X			X				X	
SAR10	Accommodation	Middle	X				X		X		
VM1	Event	Lower						X		X	
VM5	Tour	Lower	-	-	-		X				
VM8	Attraction	Lower	X							X	
VR2	Attraction	Lower	X				X			X	
SAM1	Tour	Lower	X				X		X		
SAM4	Other	Lower		X			X			X	
SAR2	Tour	Lower		X			X				X
SAR4	Tour	Lower	X					X		X	

The shaded areas indicate the range of business communication modes used with an X indicating the primary mode.

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Table A6: Perceptions of ICT skills

Code	Type	Our Expertise Classification	Current ICT Skills OK?	Future ICT Skills OK?	Source of ICT skills training/expertise							
					Family	Friends	Consultants	Books	Magazines	Courses	Other	
VM6	Tour	Upper	Yes	Yes								X
VM7	Attraction	Upper	*	*				X	X			
VM9	Attraction	Upper	Yes	Yes			X					
VR5	Attraction	Upper	Yes	Yes	X				X			X
VR10	Other	Upper										
SAM6	Attraction	Upper	Yes	Yes		X		X				
SAM7	Accommodation	Upper	Yes	Yes		X	X			X		
SAM8	Attraction	Upper	Yes	Yes			X					X
SAM10	Tour	Upper	Yes	Yes		X	X					
SAM11	Attraction	Upper	Yes	Yes		X	X					
SAR1	Accommodation	Upper	Yes	No								X
SAR5	Attraction	Upper	Yes	Yes						X		
SAR8	Event	Upper	Yes	No						X		X
VM2	Other	Middle	Unsure	Unsure	X		X					X
VM3	Accommodation	Middle	No	Unsure								X
VM4	Tour	Middle	Yes	*		X			X			X
VM10	Other	Middle	Yes	No								X
VR1	Event	Middle	Yes	Yes			X			X		
VR3	Attraction	Middle	Yes	Yes	X		X	X	X	X		
VR4	Attraction	Middle	Yes	Unsure	X		X			X		
VR6	Accommodation	Middle										
VR7	Tour	Middle										
VR8	Event	Middle										
VR9	Attraction	Middle										
SAM2	Attraction	Middle	Yes	No	X		X					X
SAM3	Tour	Middle	Yes	No			X			X		X
SAM5	Tour	Middle	No	Yes		X						X
SAM9	Accommodation	Middle	Yes	Yes				X				
SAR3	Attraction	Middle	Yes	Yes	X	X	X	X		X		
SAR6	Accommodation	Middle	Unsure	Unsure			X					
SAR7	Other	Middle	Yes	Unsure						X		
SAR9	Attraction	Middle	Yes	No	X					X		
SAR10	Accommodation	Middle	Yes	Yes	X	X				X		
VM1	Event	Lower	Yes	Yes		X				X		
VM5	Tour	Lower	No	Unsure	X		X			X		

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Code	Type	Our Expertise Classification	Current ICT Skills OK?	Future ICT Skills OK?	Source of ICT skills training/expertise							
					Family	Friends	Consultants	Books	Magazines	Courses	Other	
VM8	Attraction	Lower	No	No								
VR2	Attraction	Lower	Yes	Unsure	X	X				X		
SAM1	Tour	Lower	Yes	No		X		X				X
SAM4	Other	Lower	Yes	Unsure	X	X	X					X
SAR2	Tour	Lower	No	No	X	X	X					X
SAR4	Tour	Lower	No	No		X						X

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Introduction

STCRC has grown to be the largest dedicated tourism research organisation in the world, with \$187 million invested in tourism research programs, commercialisation and education since 1997.

STCRC was established in July 2003 under the Commonwealth Government's CRC program and is an extension of the previous Tourism CRC, which operated from 1997 to 2003.

Role and responsibilities

The Commonwealth CRC program aims to turn research outcomes into successful new products, services and technologies. This enables Australian industries to be more efficient, productive and competitive.

The program emphasises collaboration between businesses and researchers to maximise the benefits of research through utilisation, commercialisation and technology transfer.

An education component focuses on producing graduates with skills relevant to industry needs.

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- the value of graduate researchers to Australia;
- collaboration among researchers, between researchers and industry or other users; and
- efficiency in the use of intellectual and other research outcomes.