IMPACT OF INTERNET TECHNOLOGIES AND E-BUSINESS IN SMALL AND MICRO TOURISM ENTERPRISES: A STUDY OF THE GOLDFIELDS REGION IN VICTORIA

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A thesis submitted in total fulfilment of the requirements for the degree of
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May 2011
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<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>ABS</td>
<td>Australian Bureau of Statistics</td>
</tr>
<tr>
<td>BPSG</td>
<td>Bendigo Professional Services Group</td>
</tr>
<tr>
<td>CSR</td>
<td>Computer Reservation System</td>
</tr>
<tr>
<td>CVITC</td>
<td>Central Victorian IT Cluster</td>
</tr>
<tr>
<td>GDS</td>
<td>Global Distribution System</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
</tr>
<tr>
<td>LGA</td>
<td>Local Government Areas (LGA)</td>
</tr>
<tr>
<td>MMS</td>
<td>Multi-media messaging service</td>
</tr>
<tr>
<td>RET</td>
<td>Department of Resources, Energy and Tourism</td>
</tr>
<tr>
<td>RDV</td>
<td>Regional Development Victoria</td>
</tr>
<tr>
<td>SMEs</td>
<td>Small to Medium Enterprises (includes micro-businesses)</td>
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<td>SMTEs</td>
<td>Small to Medium Tourist Enterprises (includes micro-businesses)</td>
</tr>
<tr>
<td>TIC</td>
<td>Tourist Information Centres</td>
</tr>
<tr>
<td>UNWTO</td>
<td>United Nations World Tourism Organisation</td>
</tr>
<tr>
<td>VoIP</td>
<td>Voice over Internet Protocol</td>
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<td>VPN</td>
<td>Virtual Private Networks</td>
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THESIS SUMMARY

The principal aim of this thesis was to investigate the adoption, usage and impact of information and communication technology (ICT), specifically their use by small and medium tourism enterprises (SMTEs), largely micro-businesses, in the Goldfields region of central Victoria.

Since the European, Bangemann Report (1994) the adoption of internet-based information and communications technology (ICT) by small and medium enterprises (SMEs) has been extensively researched around the world. Investments in ICT in tourism and hospitality have increased greatly in the past decade. While some research has been conducted in Victorian regional areas, research into the Goldfields region has been very limited, as noted in Chapter 2. This research employed both qualitative and quantitative methods with nine (9) in-depth interviews along with an electronic survey of SMTE from across the Goldfields region. There were forty (40) returned surveys.

The thesis incorporates three models of ICT development in small and medium enterprises. First, two earlier models (Ditto and Pille, 1998 & Daniel et al, 2002) are outlined and discussed providing an understanding of the development of the concept of the model. Providing a clearer conceptual model, a recently constructed road map for ICT improvements, through a strategic approach to spending and planned investments, has been developed (Demopoulos et al, 2008). All three models are detailed in Chapter 2.

The findings were concerned with levels of connectivity, ICT skill development within businesses, the extent of customer and supplier electronic interaction, the marketing and sales exploitation of ICT and impacts, drivers and inhibitors of adoption. The results of this thesis found widespread connectivity but while almost a third of all businesses in the region were not using the internet, most businesses were taking an incremental approach to ICT adoption. Among the findings were limited uses of software applications, staff ICT training, social media, while dealings with suppliers and strategic applications of ICT were also very limited. The resulting analysis is expected to provide direction to policy makers and educators as well as the tourism and ICT industries, both regionally and beyond.
STATEMENT OF AUTHORSHIP

Except where reference is made in the text of the thesis, this thesis contains no material published elsewhere or extracted in whole or in part in a thesis for the award of any other degree or diploma.

No other person’s work has been used without due acknowledgement in the main text of the thesis.

The thesis has not been submitted for the award of any degree or diploma in any other tertiary institution.

Michael Beacom
DEDICATION

This thesis is dedicated to my daughter, Paris Keogh-Beacom.

In addition, I wish to thank the following friends for their encouragement and support:
Johnny Kesselschmidt
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Finally, I would like to acknowledge support from staff at Bendigo Tourism, Tourism Ballarat, the Goldfields Marketing Group, Goldfields Tourism Information Centres, and the tourism and information technology business participants who supported this research with their time and advice.
CHAPTER 1: INTRODUCTION

1.0 Introduction

Tourism is a dynamic and growing worldwide industry with a growth rate higher than the overall world economy and “unlikely to slow down in the near future” (e-business Watch, 2006, p.21). This growth is reflected at global, national and regional levels. The United Nations World Tourism Organisation reports that despite a “very challenging 2009” there has been a positive trend in international travel in the first four months of 2010 (UNWTO, 2010a).

Application of the Internet and mobile telephony have created a complex business environment, impacting on all business practices and creating a multi-dimensional change process which continues to evolve “at the speed of light” presenting an enormous paradigm shift and a new set rules for conducting business (Gates, 2002). The speed of technological change is set to continue. Below follows an introduction and definitions of key terms regarding tourism and information and communication technologies (ICT) used in this thesis.

Tourism Defined

Tourism is a service based industry. It provides services to international and domestic visitors (whether on day or overnight trips) and is broadly defined in the international standards to include visitors whose primary purpose of travel may be because of business, a conference or government related. It also includes the more familiar tourism aspects of leisure/holiday or to visit friends and relatives. Tourism has both tangible, such as transport, tours, souvenirs and accommodation and intangible components including education, culture, adventure and relaxation (Ibis World, 2007).

According to the Australian Bureau of Statistics (ABS), defining tourism, equates to defining travellers - also known as tourists or visitors - which they define as: 'any person travelling to a place other than that of his/her usual environment for less than 12 months and whose main purpose of trip is other than the exercise of an activity
remunerated from within the place visited' (Framework for Australian Tourism Statistics, ABS, 2003).

The Australian Bureau of Statistics defines the tourism industry as follows: “The directly related (or tourism characteristic industries) are: air and water transport, accommodation, cafes, restaurants and food outlets, travel agency and tour-operated services, motor vehicle hiring and taxi transport. The indirectly related (or tourism connected industries) are: clubs, pubs, taverns and bars, other road transport, rail transport, food manufacturing, beverage manufacturing, transport equipment manufacturing, other manufacturing, automotive fuel retailing, other retail trade, casinos and other gambling services, libraries, museums and arts, other entertainment services, education and ownership of dwellings” (ABS, 2005). The tourism industry thus includes a variety of stakeholders at various levels, which cuts across many other industry sectors, involves diverse services, occupations and professions while being linked to many other economic activities and policy areas.

The tourism industry is mainly dominated by small to medium tourism enterprises (SMTEs) although reference is made to small to medium enterprises (SMEs) at times in this work, where the issues are in common. The industry is linked to other industry sectors, including transport, the arts, food and wine, crafts, ICT and others. Tourism generates business activity in many businesses in any particular destination. Tourism thus fosters economic growth including job creation and has an important role in regional development. In addition, tourism contributes to local and regional development through the need to meet infrastructural requirements such as transport, accommodation and ICT needs (Allen et al., 2010). Tourism is fundamental to the world economy, both financially and in terms of employment with many rural and regional areas, in both developed and developing countries, heavily reliant on the industry (Pease, 2007).

The internet revolution, rapid internationalisation of business and low cost airline travel, has impacted all business but especially the international tourism business. Globally, from 2000 to 2009, there was an increase from 682 million to 880 million international passengers and despite a slowdown in 2008/09, UNWTO forecasts, international tourist arrivals are still expected to grow between 3% and 4% in 2010
UNWTO, 2010a). For 2010, the UNWTO (2010b) believes prospects are close to the level of the boom years 2004-2007. Globally, receipts for international tourism totalled US $733 billion in 2006 while it is generally understood that domestic tourism (holidaying within one’s own country) is 4-5 times greater than international arrivals (UNWTO, 2010b).

Tourism in the Goldfields Region

The tourism industry is critical to the Goldfields region of Central Victoria and a key component contributing to economic growth and diversity. Tourism has developed rapidly in recent years and provides both economic and employment benefits. Cities and towns in the region offer attractions in arts, culture, heritage, education, sports festivals, events and conferences and iconic attractions such as Sovereign Hill, the Capital and Her Majesty’s Theatres, the Lakes Wendouree and Weeroona, Art galleries, the Science Museum, the Eureka Centre and the Chinese Museum (Bendigo Tourism and Visit Ballarat Online).

By 2010 the Goldfields region is expected to be recognised as regional Australia’s premier heritage region and regional Victoria’s events capital. The Goldfields region, accounts for 13% of tourism related businesses in regional Victoria and the region has an 11% market share of all domestic visitors to regional Victoria (Tourism Victoria, 2004-2007a).

Of the visitor nights to the Goldfields region, sixty-nine percent were sourced from the intrastate market, nineteen percent from interstate and twelve percent were from the international market. In addition, the tourism sector contributed $545 million to the Goldfields economy and generated 4,301 direct tourism jobs in 2005. While there has recently been some decline, (0.8% since 1999), the Goldfields region received approximately 33,200 international overnight visitors for the year ending December 2008. The region has an 11% market share of all international overnight visitors to regional Victoria (Tourism Victoria, 2007).
More recently, the Australian Government has supported the 'Goldfields Track', an upgrade to increase tourism spending into the region in order to support local community businesses with jobs and noting, "Tourism is a $350 million industry for the Goldfields region. It attracts 1.1 million domestic overnight visitors and more than 33,000 international visitors" (Goldfields on Track for Tourism Growth, 2010, internet)

Several major issues impacting on economic growth and employment in the tourism and hospitality industry have been identified. The first of these is a focus on regional and special interest group competition rather than on total tourist numbers for the overall area. Second, higher-value visitors (staying longer, spending more), are limited to relatively restricted locations and tourism providers. Third, there are difficulties to attracting and retaining entry-level staff and trades-qualified staff. There is a need to induce businesses to train new, entry-level staff, offer better employment conditions and maintain experienced staff in the industry (Regional Employment Plan, 2009).

According to the Regional Employment Plan (2009), tourism has great potential for continued growth across the region. The Plan aims to encourage improved cooperation between regional tourism authorities, to increase overall tourist numbers and address skills shortages required for the region.

**Information and Communication Technologies (ICT)**

Throughout this work, the term ICT (Information and Communications Technology) refers to networks, computers, other data processing and transmitting equipment and software. Increasingly, Information and Communication Technologies (ICT) are no longer an option but mandatory for business and, in particular, tourism businesses.

Many researchers believe that the adoption of ICT is a key to success in SMEs and in tourism and hospitality industry in particular (Buhalis & Main, 1998; Morrison and Thomas, 1999; Martin, 2004). The application of ICT changes both industry structure and provides individual tourism operators with a sustainable competitive advantage and a strategic weapon (Rao et al., 2003). Beyond buying, the integration of the
buying experience - connecting the presentation of physical facilities, delivery processes, finance, etc. - as well as a presentation that reaches customer segments in various new social media and mobiles is increasingly required (Alvarez & Sugijoto, 2010).

Recent evidence of embracing mobile technology in the tourism industry is provided by Tourism Australia who recently launched its first iPhone application (app) the Oz Planner. The Oz Planner uses mapping technology access to tourism product listings such as tour providers, accommodation and car hire. It includes highlights, images and suggested activities. “Mobile platforms are a great opportunity for Tourism Australia to extend its presence beyond traditional advertising and marketing to showcase the country’s diverse tourism experiences” (Tourism Australia, 2010).

In addition, ICT provides appealing presentations of business products and travel destinations. “Sophisticated visualization of tourism products, the consulting role of travel agents, the social interaction and information exchange between travellers, as well as the information richness of the Internet” are key features for successful tourism e-Business (Berger et al., 2006 p 206).

Improved competitive advantage can be achieved by tourism managers who embrace new information technology and actively participate in the technology planning process to identify new uses and manage their development (Moutinho, 2002). Ultimately however, “whether ICT can bring business change depends on how people think about and apply it” (Serge, 2002, p 56).

**Information and Communications Technology (ICT) in the Goldfields Region**

Both major cities of the Goldfields region, Ballarat and Bendigo, are very well facilitated and highly committed to the growth and development of ICT in the region. The ICT industry contributes to economic growth and diversification and gives a competitive advantage to both cities, enhancing their position as the major regional centres for ICT.
In Ballarat this advantage is strengthened by the partnership between IBM and the University of Ballarat, the Global Innovation Centre and the Greenhill Enterprise Centre. A supply of required knowledge and skills are provided by the University of Ballarat in both TAFE and Higher Education (City of Ballarat Economic Strategy, 2010 – 2014). In Bendigo, various facilities and organisations contribute to a strong ICT environment and continued development. These include the Bendigo Telco, Bendigo Bank, the major regional campus of La Trobe University, the Central Victorian IT Cluster (CVITC) and the Bendigo Professional Services Group (BPSG) (Business Bendigo, n.d.)

However, while regional centres appear well facilitated and developed in infrastructural needs, from the findings in this thesis, discussed below, more distant regional and rural locations appear less so. Although broadband and mobile network access was largely not a problem, almost a third of small tourism businesses in the Goldfields region, mainly in rural locations, are not connected to the Internet.

1.1 Background to this Research

There have been various studies related to tourism industry issues in the Goldfields region including issues related to indigenous tourism (Clark & Cahir, 2004), festival tourism (Frost, 2001), heritage and cultural tourism (Frost, 2005; Frost, 2002; Lennon, 1997), Chinese Tourism (Weiler & Yu, 2007) among others. However, research into the adoption and use of information and communications technology has been limited.

This research is built upon previous work by the writer and by other researchers in the Central Victorian and wider Goldfields region into the up-take and application of ICT by small to medium sized enterprises (SMEs). Each of these works was concerned with various issues faced by SMEs in general in the region and similarly by other regional areas nationwide. A brief summary of various key regionally produced studies into SME and SMTE and the issues related to ICT are discussed in the literature review in the following Chapter 2.
1.2 Purpose of this Research

The purpose of this research then is to better understand the current state of play in the adoption, application, usage and impact of ICT. This research covers both internal and external operations of small and medium tourism enterprises (SMTE), most of which are micro-businesses, in the Goldfields region of Victoria.

More specifically, the thesis aims to:

1. Understand levels of connectivity,
2. Identify ICT skill development within and outsourcing issues,
3. Identify the extent of customer and supplier electronic interaction,
4. Identify marketing and sales exploitation of ICT technology,
5. Understand ICT impacts, drivers and inhibitors,
6. Model the state of development of ICT by Goldfields SMTE, and
7. Understand the perceived impact of the global economic crisis (GEC)

In addition, the thesis discusses the SMTE business operators’ views on the usefulness of various ICT applications and how they see further development of the technology in their businesses.

Finally, in addition to ICT issues, the perceptions of tourism business operators of the current global economic crisis were sought. The term ‘global economic crisis’ is used throughout rather than the more common reference to a ‘global financial crisis’ as the former term reflects the authors view. These perceptions addressed past impact and future expected impact of the GEC as well as the business operators’ planning issues in regard to the crisis. This question was included in consideration of the anticipated impact by interviewees and survey respondents.

Overall, the practical purpose of this thesis was to investigate current practice in Goldfields SMTE and to provide direction to regional, state and national policy makers, educators and the tourism and ICT industries - both regionally and beyond.
Below follows a discussion of the Goldfields region, its definition and jurisdiction along with the tourism industry infrastructure and the development of planning. The marketing and branding as they have evolved are discussed in Chapter 2.

### 1.3 Victoria’s Goldfields Region

#### The Goldfields Region Defined

The Goldfields jurisdiction as a tourist region has evolved from an earlier strategic approach by Tourism Victoria’s Jigsaw campaign, discussed in Chapter 2, to develop the Tourist industry in regional Victoria. For planning and research measurement, Victorian tourism was divided into seven regions, with amendments made to these boundaries for marketing purposes.

The Goldfields region is a cluster of the following Local Government Areas (LGA): the City of Greater Bendigo, the City of Ballarat, Mount Alexander Shire, Hepburn Shire, Central Goldfields Shire, Loddon Shire and the Pyrenees Shire. Table 1.1 below shows the 2006 population of the Goldfields’ seven Local Government Areas (LGA’s):

<table>
<thead>
<tr>
<th>Local Government Areas</th>
<th>Population</th>
</tr>
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<tbody>
<tr>
<td>Greater Bendigo</td>
<td>96,000</td>
</tr>
<tr>
<td>Ballarat</td>
<td>89,000</td>
</tr>
<tr>
<td>Mount Alexander</td>
<td>17,000</td>
</tr>
<tr>
<td>Hepburn</td>
<td>15,000</td>
</tr>
<tr>
<td>Central Goldfields</td>
<td>13,000</td>
</tr>
<tr>
<td>Loddon</td>
<td>8,400</td>
</tr>
<tr>
<td>Pyrenees</td>
<td>6,500</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>244,900</strong></td>
</tr>
</tbody>
</table>

*Table 1.1  2006 population of the Goldfields’ seven Local Government Areas. Source: Victorian Population Bulletin 2006, Dept. of Sustainability & Environment*
The Goldfields region includes the major regional cities of Ballarat and Bendigo and the major towns of Ararat, Avoca, Buninyong, Castlemaine, Creswick, Clunes, Daylesford, Dunolly, Heathcote, Maldon, Maryborough, Stawell and St Arnaud. For marketing purposes, Victoria's tourism regions are based on overlapping marketing campaign regions, discussed below. Major cities and towns are shown in the map below:

Map 1.1 Map of Goldfields Region

A Hierarchy of Destinations and Villages

In order to facilitate priority marketing and promotion by Tourism Victoria, the Tourism Industry Strategic Plan 2002-2006 (VTISP) created a hierarchy of destinations and villages to reflect state and regional marketing planning and destination development during the period of the plan.

Special interest destinations are rated Level 1, 2 or 3 and villages as Type A or B. Level 1 destinations have a reasonable proximity to Melbourne and have the capacity to attract substantial visitor numbers, provide a range of accommodation, attractions and services to maximise visitor yield (length of stay and expenditure), contribute to visitor dispersal (geographically and seasonally) and provide high visitor satisfaction.
In addition, these destinations currently or potentially attract a strong mix of international, interstate and intrastate visitors, and demonstrate international and national appeal matched to Victoria's key product strengths. In the Goldfields region, Ballarat and Bendigo are identified at this Level 1. Avoca is identified at Level 3, attracting substantial intrastate visitation and demonstrating potential interstate appeal as an important touring and accommodation hub.

With regard to Village status, Type A is defined as villages and towns with unique character, visitation, yield and dispersal capability and/or product strength alignment. Type B Villages have unique character but lack capacity (accommodation, attractions and services) and require careful management and development. In the Goldfields region, Castlemaine is identified as Type A, while Maldon, Clunes, Maryborough, Dunolly and Creswick are all defined as Type B. Daylesford, Ararat and Stawell are integrated in the Goldfields marketing campaign as they all border the region.

Table 1.2 Cities, Towns and Village Classification
Adapted from Source: Tourism Victoria, 2007, Goldfields Regional Tourism Development Plan 2004-2007

<table>
<thead>
<tr>
<th>Destination</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ballarat Level</td>
<td>1</td>
</tr>
<tr>
<td>Bendigo Level</td>
<td>1</td>
</tr>
<tr>
<td>Avoca Level</td>
<td>3</td>
</tr>
<tr>
<td><strong>Villages</strong></td>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>Castlemaine</td>
<td>Type A</td>
</tr>
<tr>
<td>Maldon</td>
<td>Type B</td>
</tr>
<tr>
<td>Clunes</td>
<td>Type B</td>
</tr>
<tr>
<td>Maryborough</td>
<td>Type B</td>
</tr>
<tr>
<td>Dunolly</td>
<td>Type B</td>
</tr>
<tr>
<td>Creswick</td>
<td>Type B</td>
</tr>
</tbody>
</table>

Touring routes linking key destinations and villages are also considered important in maximising yield dispersal and visitor satisfaction, while special interest markets, consistent with Victoria's primary product strengths include: food and wine; natural attractions; Arts and cultural heritage; events and ski resorts (Goldfields Tourism, 2008).
Tourism Businesses

In 2004, the Goldfields region accounted for 13% of tourism related businesses in regional Victoria with the vast majority of tourism businesses (2696) in the region being micro-businesses, employing 4 or less people. There are 1254 small businesses employing 5-19 people and 325 medium-large businesses, employing 20 or more people (Goldfields Regional Tourism Development Plan 2004-2007, 2003a).

Table 1.3 Goldfields Tourism Businesses by Size

<table>
<thead>
<tr>
<th>Goldfields Region</th>
<th>Micro</th>
<th>Small</th>
<th>Med to Large</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tourism Characteristics</td>
<td>432</td>
<td>202</td>
<td>40</td>
<td>674</td>
</tr>
<tr>
<td>Tourism Connected</td>
<td>2,264</td>
<td>1,052</td>
<td>285</td>
<td>3,601</td>
</tr>
<tr>
<td>Total</td>
<td>2,696</td>
<td>1,254</td>
<td>325</td>
<td>4,275</td>
</tr>
</tbody>
</table>

Tourism Employment

In the 2002 – 2003 period there were 5,301 employed in tourism from a total population of 98,059 employed in the Goldfields region. According to Tourism Victoria, the tourism sector has the third highest number of people employed in regional tourism across the State. Of the 88,000 people employed in the Goldfields region, tourism employs about 5% (Tourism Victoria, 2005a).

Tourism Development Planning

Goldfields Regional Tourism Incorporated is the peak body in developing and promoting the industry in the region. It is essentially a marketing body financially supported by the Regional Partnership Program and other Government grants, e.g. Regional Tourism Online Program, Regional Infrastructure Development Program, Regional Association Program and the Community Support Fund in addition to industry contributions, sponsorship and local governments (Strategic Marketing Plan, Goldfields, 2005 to 2008a). It is headed by a marketing manager and supported by a skills based board of representatives selected from expressions of interest.
The Goldfields Regional Tourism Inc. has produced a number of regional tourism development plans which provide industry leadership and development, increase the effectiveness of regional marketing, establish target markets, focus on high yield segments and undertake regional visitor surveys. These plans have resulted in continuing average annual visitation growth in the region from international visitors, domestic visitation and domestic visitor nights (Goldfields Regional Tourism Development Plan 2004-2007, 2003b).

The growth of the region as a tourist destination has evolved and developed over the past decade. By 2007, with investment in upgrading heritage assets, creating new heritage related interactive and contemporary products. The Victorian Goldfields, building on its strengths of gold history and heritage places, had become a tourism industry leader. Creative marketing strategies highlighted its heritage strength, offered superior service standards and has become increasingly to ‘own’ history and heritage branding within Australia (Goldfields Regional Tourism Development Plan, 2004-2007, 2003c).

Following the establishment of strategic alliances between Tourism Victoria, the City Councils of Ballarat and Bendigo and regional tourism associations, other development activities included:

1. improving the eco-tourist visitor experience (State parks, forests, reserves),
2. developing the region's gold heritage character with identified heritage precincts for visitors in Castlemaine, Bendigo and Ballarat,
3. promoting regional art galleries, and
4. development of Sovereign Hill in Ballarat as the region's prominent tourist attraction (Goldfields Regional Tourism Development Plan 2004-2007, 2003d).

As noted above, while Ballarat and Bendigo are key destinations, more integrated planning has been developed to promote villages and smaller centres thus expanding the region’s varied destinations and attractions (Goldfields Regional Tourism Development Plan 2004-2007 2003e).
Various infrastructure priorities are highlighted in the 2004-2007 plans including:

1. the development of a heritage themed hotel and conference centre to be co-located with Sovereign Hill, Ballarat
2. the development of historic tours and heritage trails
3. ensuring integration with other local strengths including food and wine, arts and culture, events, parks and gardens and architecture.


Further development of a cohesive industry structure, the promotion of key assets and the reinvigorating of the Goldfields image has placed the region as the leading Australian heritage experience and boosted enthusiasm for raising industry standards, building cooperative partnerships and increasing community support for tourism (Goldfields Regional Tourism Development Plan 2004-2007, 2003g).

In addition to the Goldfields Regional Tourism Inc., the regional industry structure currently consists of a number of supporting local tourism associations addressing the local needs of the industry. These are listed below:

**Goldfields Tourist Associations**

Ballarat Tourism
Bendigo Tourism
Mount Alexander Shire, Visitor Services Unit
Clunes Tourist & Development Association
Pyrenees Tourism
Creswick Tourist Association
Ballarat Tourist Association
Waranga Regional Tourism Association
Heathcote Tourism and Development
Beaufort Business & Tourism Association
Avoca Business & Tourism Association
Loddon Tourism Association
Central Goldfields Shire, Visitor Information Centre
Pyrenees Shire, Economic Development & Tourism Unit
Hepburn Shire, Tourism Unit

The Goldfields region has also developed a number of Accredited Visitor Information Centres at the locations below:

Table 1.4 Locations of Goldfields Accredited Visitor Information Centres
Source: Goldfields Strategic Marketing Plan, 2005 – 2008)

<table>
<thead>
<tr>
<th>Location</th>
<th>VIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ararat</td>
<td>Avoca</td>
</tr>
<tr>
<td>Ballarat</td>
<td>Beaufort</td>
</tr>
<tr>
<td>Ballarat, Art Gallery</td>
<td>Castlemaine</td>
</tr>
<tr>
<td>Bendigo</td>
<td>Heathcote</td>
</tr>
<tr>
<td>Maryborough</td>
<td>Maldon</td>
</tr>
</tbody>
</table>

In summary, the section above has defined the jurisdiction of the Goldfields region, identified the various major cities, towns and villages and described the local government areas (LGA) which compose the region. In addition, the tourism infrastructure has been described with the identification of the various tourism associations and accredited Visitor Information Centres (VICs). The development of tourism planning and the economic, business and employment importance in the region has been noted. Issues of marketing and branding of the Goldfields region are discussed in Chapter 2.

1.4 Justification for this Research

It is widely understood the impact of ICT is transforming the way business is conducted and impacting on innovation, productivity and business strategy. In particular, it is very important for social equity that small businesses are fully engaged. This is particularly true for regional and rural businesses as well as for tourism businesses. ICT offers regional businesses the ‘reach’ to access new markets and successful application of ICT to tourism businesses may bring financial gains and employment opportunities to the regional economy (Buhalis, 2003; Grimes, 2000).

In Victoria, there has been substantial identification of opportunities and development of the tourism industry with various studies undertaken related to ICT adoption. Studies however have usually been based on Bendigo or Ballarat and focussed on
local government areas (LGA) as the jurisdiction. There has been only limited information regarding ICT use, both internally and externally, by SMTE specifically in the Goldfields region.

Tourism is a particularly important industry to the Goldfields region in terms of economic development, job creation and, as an industry with limited barriers of entry, for entrepreneurs. This thesis, through interviews and a survey across the entire Goldfields region, has sought to improve understanding and to provide direction to regional, state and national policy makers and educators, as well as the tourism and ICT industries, both regionally and beyond.

1.5 Research Problem

Despite substantial evidence confirming the critical nature of information and communication technologies (ICT) and their impact on the tourism industry, the application and strategic use of the technology is still very limited across the region.

Research Questions

The research problem can be answered by seeking answers to the following questions.

1. What levels of connectivity are available to Goldfields SMTE?
2. What degree of ICT skill development is available, both internally and externally, to SMTE?
3. To what extent and how successfully are SMTE leveraging customer and supplier electronic interaction?
4. To what extent and how successfully are SMTE exploiting ICT tools and media for marketing and sales?
5. To what extent does ICT impact on SMTE, drive the business, and what are the inhibitors to uptake?
6. Based on a recent model of small business development of ICT, where are SMTE in the Goldfields Tourism currently placed?
7. To what extent are the perceptions of tourism business operators of the current global economic crisis impacting with regard to past and future implications and planning issues?
In addition, the thesis discusses the SMTE business operator’s views on the usefulness of various ICT applications and how they see further development of the technology in their business. Finally, in addition to ICT issues, the perceptions of tourism business operators of the current global economic crisis were sought with regard to past and future impact and with their planning issues with regard to the crisis. Overall, the practical purpose of this thesis was to investigate current practice in Goldfields SMTEs and to assist policy makers as well as the tourism and ICT industries.

1.6 Summary of Research Design

The research process for this thesis began with contacting all ten accredited Visitor Information Centres across the Goldfields region. All agreed to supply information on businesses registered with them for promotion to visitors and tourists. Once collected and collated as a data base, this represented, in the view of the author, all those businesses who through their registration had flagged themselves as directly focussed on the tourism market.

A survey instrument was developed based on European studies among SMTEs but, following wide consultation, modified and adapted for the local setting. Details are discussed in Chapter 3, Methodology.

In order to achieve both depth and breadth, it was determined to adopt both qualitative and quantitative methods for collecting the information from tourism businesses. Following consultation with various Goldfields regional tourism bodies, the questionnaire was trialled through nine in-depth interviews with SMTEs identified as being to some degree advanced in their application of ICT. Following some modification to the survey instrument, 466 tourism businesses across the region were e-mailed an electronic survey for completion and electronic return. Of these, forty responses were received. The research process is discussed in depth in Chapter 3.
1.7 Outline of Thesis

This thesis is structured into five sections. Following the Introduction, Chapter Two, provides a literature review where findings from various studies related to ICT adoption by small to medium enterprise (SMEs) in general and SMTEs in particular are reviewed along with benefits, barriers and inhibitors. In Chapter 3 the research design and methodology are outlined to address the research questions. Chapter 4 presents a discussion of the results obtained from both the qualitative and quantitative research.

Chapter 5 draws conclusions from the findings and discusses three models to identify the level of development of Goldfields SMTE. The chapter concludes with limitations of the research, recommendations to assist further development and makes suggestions for further studies.

1.8 Summary

This chapter has provided an outline of the thesis. The key concepts of tourism, of tourism in Australia and tourism in the Goldfields region are discussed. Information and Communication Technologies (ICT) in Australia and ICT in the Goldfields region are also discussed. The purpose and aims of the thesis have been identified in addition to a statement of the research problem and resulting research questions.

The jurisdiction of the Goldfields Region as a tourist marketing region is defined and the various cities, towns and villages identified and described along with various organisations associated with tourism across the region. While there is some degree of overlap of jurisdictions, various past studies into the uptake and other related issues to ICT in the region are identified and outlined and later applied in this study.
CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

This chapter provides a theoretical framework that seeks to explain and contextualise the purposes of this research and its findings. The literature review is structured into the following sections: Following an introduction, telecommunications and e-commerce are discussed along with the internet and small business which are defined in this section. The structure of tourism in Australia is outlined. The issues of SMEs applying ICT along with the barriers and benefits follow. Section 6 addresses past research into the Goldfields regional tourism while sections 7 and 8 address marketing and booking channels along with impacts, productivity of ICT applications. Finally, in section 9, models of ICT development are outlined. A summary concludes the Chapter.

2.1 Telecommunications and E-commerce

Telecommunications infrastructure has been identified as an area of need in regional research in Australia (Black et al, 2000). It is widely understood that information and communications technology developments will unfold rapidly in the years ahead and that the demand for tourism information will increase substantially, in particular from an emerging generation brought up with the internet as the basic information tool. Recent developments in the implementation of the national broadband network (NBN) are likely to hasten this process (National Broadband Network, 2009). There is extensive evidence, noted above, of increasing interest in visiting regional Victoria. Regions that move to leverage the technology early may have a decisive advantage over other destinations (Electronic Frontier Foundation, 1998).

While a commonly used term, e-commerce has a wide range of meanings from establishing a website and e-mail address, to receiving customer orders, to selling directly on-line with credit card facilities to more complex processes involving internal issues and to supplier and customer relationship processes.
In the “Australian Guidelines for Electronic Commerce” (2006), the Commonwealth government defines Electronic Commerce as “commercial activities carried out through electronic networks including promotion, marketing, supply, order or delivery of goods and services”. By reducing costs and the speed of transactions, e-commerce transforms relationships with customers and suppliers. More simply, e-commerce may be defined as “a system of conducting business activities using the internet and other information technologies” (Zhou, 2004, p 56).

E-business and e-commerce are sometimes used interchangeably, but in reality they are different terms. In both, the e stands for "electronic networks", the application of electronic network technology - including internet and electronic data interchange (EDI). E-commerce addresses outward-facing processes to customers, suppliers and external partners, including sales, marketing, order taking, delivery, customer service and procurement. E-business by contrast, includes e-commerce but is focussed on efficiency, productivity and cost savings, with the addition of internal processes such as production, inventory management, product development, finance, knowledge management and human resources (Bartels, 2000). In this thesis, the terms are used interchangeably referring to all the above processes.

2.2 The internet and small business

The development of the internet has been described as a transformative technology, likened to the gunpowder and print revolutions of earlier centuries (Davidson & Rees-Mogg, 1997). By compressing time and space, the internet allows business, including small business, to expand beyond regional boundaries (Kramer & Porter, 2006). Since the mid 1990s, the internet has had an important impact on transforming SMEs business practices and driving business process improvements (ATMA, 2008a). It has changed the way business is conducted and transformed industries (Whitney, 1996; Rao et. al., 2003). The internet has created opportunities for small business to “access new markets, become closer to customers and re-engineer supply chains to drive greater efficiencies” (Brumby, 2000, cited in O’Brien, p vii). The pace of innovation over these next ten years will be much faster than what we have seen in the past.
“….with keyboard and mouse giving way to speech, touch and mobility” and information manipulated by hand gestures (Gates, 2002).

The increasing pace of globalisation requires businesses to be constantly creating new sources of competitive advantage. Small business is a major component of all economies. They are considered well suited to e-commerce as they are “generally considered to be flexible, adaptive and innovative” (Rao et al, 2003, pp.11 - 32). Small to medium enterprises (SMEs), including micro-businesses, given their size, make an important economic and social contribution to society, in particular bringing jobs and economic development to remote and regional areas (Buhalis & Main, 1998).

Since the European, Bangemann Report (1994) identified engagement of SMEs with e-commerce, such engagement has been seen as critical for an equitable transition to the information age. The adoption of internet-based information and communications technology (ICT), including e-commerce, by SMEs has been extensively researched in many countries around the world (Beal, 2001; Fu et al., 2001; Vidgen et al., 2004; Alam et al., 2005; Kotelnikov, 2007; Balocco et al., 2009).

According to Walle (1996), the tourism industry has been a forerunner in adopting ICT and e-Business. In the 1970s it was Computer Reservation System (CRS) and in the 1980s a Global Distribution System (GDS). These acted to create, develop and globalise the availability of basic tourist services through the intermediation of travel agencies having unique access to the automated booking and distribution systems. New means were applied for purchasing tourist services through travel agencies. The internet in the 1990’s deeply influenced and reshaped the sector profile; the new medium transformed interactions and allowed direct interaction between customers and suppliers.

Investments in ICT in tourism and hospitality have increased greatly in the past decade (Siguaw et al., 2000; Paraskes & Buhalis, 2002; FIBR, 2009). Spending on information technology by businesses is strongly influenced by overall economic conditions, thus in times of economic prosperity, more will be spent, and conversely, in times of economic recession or uncertainty, business tends to delay new development or cut IT budgets. In 2007, economic conditions were strong and there
was a continuation of the measured growth in ITC from the previous two years (Computer Economics, 2007). However, with the arrival of the global economic crisis (GEC), investment patterns, in particular for small business, may change.

The exponential growth in e-Commerce over the past decade has created a global marketplace and made it an imperative for individual businesses as well as regions to leverage the technology if they are to remain competitive. ICT offers the ability to foster improved competitive performance through networking, clustering and the formation of alliances (Braun, 2008). However, “The research presented here makes it clear that if we are to understand the complex mix of factors that enable effective engagement with ICT by SMTE we will have to step beyond a simple reliance on survey based research, and begin to engage directly with the businesses we are trying to assist” (Nodder et al., 2003).

In 2006, The Economist Intelligence Unit ranked Australia as eighth in global national e-readiness rankings of sixty-eight countries, an improvement on the previous year, where it was ranked number 10 for e-readiness. E-readiness is defined as, “the ‘state of play’ of a country’s information and communication technology (ICT) infrastructure and the ability of its consumers, businesses and governments to use ICT to their benefit” (The Economist Intelligence Unit, 2006).

**Small Business in Australia**

Small business is defined, according to the Australian Bureau of Statistics (ABS) as a business employing less than 20 people within these categories:

- “non-employing businesses - sole proprietorships and partnerships without employees;
- micro businesses - businesses employing less than 5 people, including non-employing businesses;
- other small businesses - businesses employing 5 or more people, but less than 20 people”
In addition, they have the following management or organisational characteristics:

- “independent ownership and operations;
- close control by owners/managers who also contribute most, if not all the operating capital; and
- principal decision-making by the owners/managers”

Other business categories by size are:

- “medium businesses - businesses employing 20 or more people, but less than 200 people; and
- large businesses - businesses employing 200 or more people”

(ABS, Small Business in Australia, 2001)

There are over 2 million small businesses in Australia and small businesses employ over 4.5 million people (COSBOA, 2010).

In the Goldfields region there are an estimated 4275 tourism related businesses in addition to 3601 tourism connected businesses identified, with the region accounting for 13% of tourism related businesses in regional Victoria. The vast majority (2696) of tourism related businesses in the region are micro-businesses. Furthermore, according to Tourism Victoria, the Goldfields region ranks sixth as a destination for visitors within the state (Tourism Victoria, 2005b).

2.3 Tourism structure and issues in Australia

In Australia, the tourist industry has been characterised by a two tier structure. In the first tier are the dominant players who, while few in number, are global, strategically oriented, have highly professional management practices and centralised information management systems. By contrast, the second tier, small and medium tourism enterprises (SMTE) are characterised by more limited resources, both financial and technical expertise. They are likely to be focussed on operational issues rather than taking a strategic view. Typically, in Australia, they tend to be located in regional and rural areas (Sharma et al, 2000). The points made below support the importance of
this research in attempting to understand ICT and tourism in the Goldfields region which largely reflects the second tier described above.

The Hospitality and Tourism Industry Report (2006) identifies a number of important issues which will continue to confront the hospitality and tourism industry in Australia.

These issues include:-

1. An increased focus on customer service.
2. Growth in the market for backpackers, independent travellers and special interest tourism.
3. Easier visitor access to Australia.
4. Growth in conventions, festivals, accommodation types and new tourism developments.
5. Changes in dining patterns and tastes.

The travel sector will continue to be influenced by rapid changes in technology, together with increased emphasis on legal responsibilities, for example, duty of care and risk management. A number of host tourism markets such as bed and breakfast, farm stay, chalets and retreats will continue to emerge and will require appropriate training programs (The Hospitality and Tourism Industry Report, 2006).

Tourism Australia is the national government body. It is a diverse, global organisation employing over 200 people in 13 countries around the world, coordinating national marketing and co-operating with the private sector and with state and territory tourism departments, to coordinate tourism promotion nationally and internationally.

In December 2009 Tourism Australia (2009) detailed a nine key point National Long Term Tourism Strategy (NLTTS), up dated in 2011. This strategy established a framework and operating principles for all tourism businesses, small and large, to ensure tourism remains a competitive and sustainable industry. The federal government has recently committed to a new $150 million global marketing campaign and developed an integrated tourism marketing policy with States and Territories (ATEC, 2010). An inaugural Tourism Research Conference was held in November
2010, where Australia’s first State of the Industry Report was presented, highlighting key trends and assessing the tourism industry’s performance (RET, 2010a).

National agreement has also been reached in establishing a Tourism Quality Council responsible for implementing Australia’s first National Tourism Accreditation Framework, “designed to provide consumers with increased confidence through marketing businesses adhering to a quality standard” (RET, 2010b). A well developed tourist industry is thus seen to be characterised by consistency, safety, reliability, efficiency and value for money (Tourism Excellence, n.d.).

It is clear that there is national commitment to the further development and expansion of the tourism industry across Australia, soliciting public input and setting national quality standards. Tourism Australia made that commitment clear at the 2011 National Tourism Directions Conference, where the immediate goals were, marketing, a focus on Asia, engagement with airlines, and attracting investment (Tourism Australia, National Tourism Directions Conference, 2011).

Since 2008, of more immediate concern, is the global economic downturn and the continued worldwide economic uncertainty and instability together with the uncertainties of domestic political issues, for example, taxation and industrial relations regimes (Small Business Roundtable, Communiqué, 2007).

**Regional Tourism in Australia**

The Australian government has identified regional tourism as an important economic contributor to many regions with domestic visitors contributing just over $28 billion and international visitors $3 billion to regional economies (DITR, 2007).

- In the year ending September 2006, Australians made 48.7 million trips to regional Australia, and on average, spent just under four nights in regional Australia.
- 2.4 million international visitors arrived in regional Australia in the year ending September 2006, and on average, tended to spend 16 nights in regional Australia, according to DITR (2007).
Victorian Tourism

In 1993, Tourism Victoria commissioned the development of one of Australia’s most respected and successful tourism marketing and advertising campaigns. The Jigsaw campaign and its logo were designed to build Victoria’s positioning and summarise and highlight Victoria’s diversity. This has been the foundation block to build a number of marketing campaigns both for Melbourne and various regional areas including the Goldfields, Great Alpine Road, Great Ocean Road, Grampians, Phillip Island and the Mornington Peninsula with 11 tourism regions in total. The Jigsaw campaign set the foundation for further development of the Industry in the state (History of the Jigsaw Campaign, Tourism Victoria, n.d. See appendix 1).

Aiming to focus on key destinations and attractions in regional Victoria and to focus product strengths, Tourism Victoria, following industry consultation developed the Victorian Tourism Industry Strategic Plan 2002-2006 (VTISP, 2002). Further development occurred with the 10-Year Tourism and Events Industry Strategy 2006 – 2016 developed in partnership to grow the industry by creating a vision, setting new directions and guiding marketing and investment decisions (DIIRD, 2006b).

Tourism Victoria, to accelerating regional tourism development, coordinated the Regional Tourism Development Plan (2004-2007), building on strategies and directions of the earlier plan. This provided leadership, vision and clarity for the State’s entire tourism industry (Tourism Victoria, 2007a).

Several tourism marketing campaigns to raise the profile of regional destinations across the State have since been developed including the latest phase of the Jigsaw campaign. The Plan has three components to its framework - Product Plans, Market Segment Plans and Regional/Melbourne. Building on this, each region developed their own localised plan to align with these components. The Goldfields Regional Tourism Development Plan 2004-2007 is a dynamic strategy updated annually (Tourism Victoria, 2005b).
More recently, Tourism Victoria has released the Regional Tourism Action Plan 2009-2012 and the Regional Marketing and Development Plans 2009-2010 and 2010-2011 (Tourism Victoria, 2009a) which outline Tourism Victoria's activity for each region in the coming financial year and supporting the framework of the 10 Year Tourism and Event Industry Strategy (Tourism Victoria, 2009b).

Tourism Growth in Victoria

By 2003 tourism in regional Victoria was generating $3.5 billion annually and accounting for around 60,000 jobs, transforming communities and providing opportunities for renewal with the industry the fastest-growing source of regional job creation (Tourism Victoria, 2007 – 2008b). To December, 2009, regional Victoria received approximately 12.4 million domestic overnight visitors and receiving approximately 296,800 international overnight visitors whose expenditure generated an estimated at $250 million (International Visitation Estimates to Victoria, 2010a).

In Victoria, tourism directly contributes $8.6 billion directly and $7.2 billion indirectly to the states’ economy, in total $15.8 billion, and accounts for 3.2% directly and overall 5.9% of Gross State Product (GSP). These funds flow through many businesses beyond tourism enterprises. The Victorian government intends to increase tourism’s contribution to at least $18 billion and to create at least 66,000 new jobs by 2016 (DIIRD, 2006a).

Tourism’s true contribution is measured by the Gross Value Added (GVA) which contributes an additional $6.8 billion making Tourism worth an additional $14 billion in total or 5.8% of total Victorian GVA. Accommodation contributes the largest share (12.5%) to GVA with additional contributions from retail trade (10.7%), air and water transport (9.6%), education (9.4%) and cafes, restaurants and food outlets (9.3%). For the year 2007 to 2008, the Tourism Industry provided employment for 184,800 people or 7.1% of employment in Victoria (Tourism Victoria, 2005a). Thus, the economic importance of tourism and its regions is clear.
2.4 Barriers and benefits of ICT

In reviewing studies of the factors that determine the level of ICT adoption by small business in general, Fink (1998) identified organisation size and readiness, CEO attitude, innovativeness, knowledge of ICT and internal support, perceived benefits, financial resources, external factors including competitive pressure, consultant and vendor support and user participation. The complexity of adoption and usage will also vary between businesses with some taking incremental steps in developing, others immediately move to more advanced applications (Tan et al., 2009).

However, many constraints inhibit SMEs development including poor telecommunications infrastructure, limited ICT literacy, inability to integrate ICT into business processes, high costs of some ICT equipment, incomplete government regulations for e-commerce and a poor understanding of the dynamics of the knowledge-economy (Khong Sin Tan et al., 2010). Additional constraints include lack of education and technical skills, limited government support, costs, risk, managerial leadership, security and legal issues, business complexity and skilled staff recruiting issues (Kogilah et al., 2008; Hashim, 2007).

Other studies have identified challenges worldwide that inhibit the uptake of ICT by SMTE including: a lack of training and capital, limited understanding of the potential of technology, and a lack of clear business strategies (Buhalis & Main 1998). Various benefits and barriers to the implementation of ICT applications have been recently identified. Among the most prevalent benefits of ICT adoptions include:

- reduced operating cost in communicating with customers and suppliers,
- increased speed in the delivery of goods by suppliers through better communications,
- enhanced efficiency through better co-ordination of firms in the value chain,
- closer working relationship among trading partners,
- effective communication tool with customers,
- bigger market exposure which opens the enterprise to new business opportunities,
• enhanced access to market information and knowledge by means of improved information exchange with customers and suppliers, and
• as a future tool in terms of facilitating new ways of managing and organizing businesses.

The widely cited barriers to ICT adoption include:

• unsuitability for business as SMEs are not convinced of the financial benefits to be attained,
• lack of qualified IT personnel to develop and maintain the e-commerce system of the enterprise,
• unavailability of a proper network infrastructure in the company,
• high cost of IT equipment and setup,
• expensive software prices,
• imbalance between investment costs and return on investment,
• uncertainty of legal issues surrounding ICT adoption, and
• fears and concerns over ICT security (Tan et al., 2009, pp.224-44)

2.5 Issues of SMTE applying ICT to their business

It is now widely accepted that ICT, “provides many potential benefits to organisations so as to make them more efficient, effective and competitive” (Fink and Disterer, 2006, pp.608-624). Applying social actor theory and a case study approach, their study found that ICT infusion into the business is low for micro businesses who may look to facilitate external interactions. While small enterprises used ICT to supplement personal contact within organisational boundaries fewer environmental or affiliate links were evident. ICT was more extensively used in medium sized enterprises for both internal and external interactions. Their study concludes that increased organisational competencies, improved ICT skills and business skills, together with a strategic approach to compete and cooperate with customers, suppliers, alliances and networks, is needed to maximise business benefits.
In relation to ICT, to grow a business, according to Small Business, NSW, managers will need to consider:

- what its customers are using and what is required to link with their technology platforms
- how will its goods/services be sold and will there be increased demands on e-business or e-commerce
- how are volumes in processing (i.e. invoicing, payments, etc) likely to increase
- what processes are currently used, and will be needed in the future
- staff resources, their roles and job functions
- importance of technology to the business, now and in the future, from a strategic and operational point of view
- what systems within the business should be integrated? For instance, should the finance system be linked with the client database or customer relationship management (CRM) system?
- what security is needed and is the proper infrastructure in place to ensure data security
- What new functions, roles, systems or processes may need to be created in the future (Small Business, NSW, ICT impacts).

The literature of strategic management is dominated around debates about rationality verses incrementalism, deliberate strategies verses emergent strategies and the usefulness of extensive statistical analysis and yet it is claimed that formal, deliberate planning is unlikely to get anywhere without a parallel development of emergent learning (Braun & Hollick, 2004).

Planning is “deciding to put one foot in front of the other”, (Winston Churchill, cited, Mintzberg, 1996). In illustrating that a planned strategy that proceeds deliberately as formulated and intended, Mintzberg and Waters (1985), have produced a taxonomy which identifies that most strategies evolve along a “continuum of emergentness”. Noting that planned strategies require a stable environment, they identify a number of strategies that better reflect the current global environment and the differences and difficulties in implementation. There is sound evidence to show that SME can gain competitive advantage and financial benefit through the use of ICT.
and the potential to gain further advantages through the use of an integrated and strategic approach to its use (Maguire et al, 2007).

However, an e-business strategy is also more difficult to execute, with four directions of integration: vertically, between Web front- and back-end systems; laterally, between a company and its customers, business partners, suppliers or intermediaries; horizontally, among e-commerce, enterprise resource planning (ERP), customer relationship management (CRM), knowledge management and supply-chain management systems; and downward through the enterprise, for integration of new technologies with radically redesigned business processes. But an e-business strategy has a higher payoff in the form of more efficient processes, lower costs and potentially greater profits (Porter, 2001; Daniel and Wilson, 2003).

2.6 Research on Goldfields regional SME and SMTE

Since the late 1990s several reports concerning e-commerce and ICT skills within the jurisdiction of the Goldfields region have been produced. A 1998 pilot study of Internet and e-commerce usage in Central Victoria focussed on e-commerce uptake amongst small to medium businesses. The methodology involved desk-top research, a survey of Central Victorian businesses and a selection of case studies. The Report found widespread concern among managers about costs, lack of knowledge, internet service providers (ISPs), security and privacy and the year 2000 exposure (Y2K). Some were taking little action to address these concerns, failing to grasp the potential cost benefits and having a perception/reality gap which was impacting the uptake of ICT. The Report concluded stronger efforts at the local level were needed with regard to infrastructure provision, information technology skills and management capabilities (Beacom et al., 1998).

A 2001, report attempted to identify demand for and supply of ICT skills in the Central Victorian region based on the premise that such a skilled workforce was critical to the region’s economic future. While the Central Victorian region was well facilitated with education providers, training efforts were perceived as uncoordinated with provision often intermittent, random and not targeted at a regional level. The study found that
collaboration and partnership between government, business and educators is important in addressing these issues. The report concluded with a number of recommendations for a regional information technology workforce, for the regional information technology industry, for business and industry, for education and training providers and for government at all levels (E-commerce Association of Central Victoria, 2001).

The Electronic Commerce Association of Central Victoria sought to develop a business plan for an E-commerce Enabling Facility, responsive to the needs of regional businesses. The basic premises were that investment in new electronic business processes and systems would expand in coming years and that knowledge of the technology and its applications widely needed. The role of the proposed facility was to develop and deliver relevant products and services, thus reducing the associated risks to businesses. It was recognised that a ‘broad spectrum’ of business needs, depending on industry and nature of the business and on external demands, would need to be met.

Research including a regional survey found key findings: Some 82% of businesses were internet connected; about one in three businesses had a web presence; substantial numbers of businesses were willing in future to purchase more advanced internet-based technologies; total IT spending suggested an increase in total business expenditure over the next few years.

Three strongly identifiable customer segments were identified. These were:
(1) High Spenders: characterised by an intention to increase IT expenditure as a proportion of total business spending by at least 10% over the coming years. These businesses represent 11% of the total sample.
(2) Me-Too’s: The vast majority of firms (75%) in the region were in this category with their prevailing attitude to spend sufficient on IT to ‘keep up with their customers and suppliers’ but lacked a planned approach to their IT development, and
(3) Unconvinced: Representing 12% of the survey sample and characterised by relatively low levels of IT expenditure, perceiving IT as not relevant to their business and lacking awareness of the benefits and of the business case (Business Plan for an E-commerce Enabling Facility, 2001).
Applying a collaborative learning network approach, a 2006 study undertaken at the University of Ballarat, sought to provide initial insights into tourism industry capacity building via flexibly delivered online skilling and knowledge sharing. Surveying a sample of 64 micro tourism operators the study found that pilot region operator’s perceived major benefits. These included time saving aspects and were assisted by access to best practise examples and direct links to the online resources. The model applied was practical and transferable (Braun and Hollick, 2006).

The important support role universities can play in the establishment and sustainability of regional information and communication technology (ICT) initiatives were explored through three case studies. The results created benefits - of on-the-ground leadership, infrastructure, collaboration and multi-disciplinary research – for communities and also generated consultancy income, publications and community engagement (Thompson, 2005).

Another Goldfields regional study discusses small business clustering and local network knowledge transfer. Following discussion of the key literature on clustering within a regional development context, the implications on industry and place vis-à-vis regional cluster learning, knowledge creation and innovation are addressed highlighting three regional Australian small business clustering studies. The paper concludes with some future directions for SME clustering in terms of policy, industry and place (Braun et al., 2005a).

There has been extensive research interest in how ICT has impacted on rural tourism businesses (Mitchell and Clark, 1999; Grimes, 2000; Malecki, 2003; Braun, 2005a; Braun, 2005b; Braun, 2007), reducing “the tyranny of distance” (Drabenstott, 2001), providing stable employment and bringing tourist expenditures into the local economy (Buhalis and Main, 1998). Tourism, especially small tourism business, remains central to rural development (Briedenhann and Wickens, 2004).

The exponential growth of internet users globally, has critical implications for small to medium sized tourism enterprises (SMTE), with various benefits including value chain development and partnerships, increased productivity, enhanced efficiency,
greater access to information and knowledge, information system capabilities and developing new clients (Kogilah et al, 2008; Hashim, 2007). However, there has also been concern expressed that to the extent rural small to medium sized tourism enterprises SMTEs are not exploiting ICT, a two tier rural economy may result (Mitchell and Clark, 1999).

In researching how ICT influences distance and business efficiency, Irvine and Anderson (2008) adopted ‘supply and demand’ models to explore ICT usage in small Scottish rural hospitality businesses. They focussed on ICT’s relationship to reducing rural isolation by providing information, through internet sales and marketing and in improving service quality. They concluded that there was “sound evidence” that ICT was “well imbedded” in smaller rural hospitality businesses who overall were, “sensible, informed and often quite sophisticated” in their ICT usage. However, while very attentive to the demand side, they also found that often these businesses were neglecting the supply side functions.

A 2009 survey of small business operators across industries in the Asia-Pacific, including Australia, found that the Australian small business sector will not be a source of employment growth or a source of unemployment in the near future. It also found Australian small business operators are the least likely to undertake even the most basic management activity such as stock and debtor control (CPA, Australia Asia, 2009)

2.7 Marketing and Booking Channels

Marketing the Goldfields Region

The need to develop the marketing of the regions arose from research undertaken in 2001 and in 2003, using prompted and unprompted survey data collected from domestic consumers seeking their awareness of Victoria's tourism regions at that time (i.e. Goldfields, Macedon Ranges & Spa Country, etc) and holiday destinations in Victoria. The results found that, with the exception of the Great Ocean Road, Melbourne had double the proportion of any other named Victorian holiday
destination. The destinations in the Goldfields region that had the highest levels of unprompted awareness were Ballarat (13.0%), and Bendigo (6.9%) (RAPS, 2001). The marketing of the Goldfields region developed through the three year Strategic Marketing Plan (2005 to 2008) and the Goldfields Brand Marketing Guide (2008). Both documents have aimed to integrate State-wide strategies (Victoria’s Tourism Industry Strategic Plan 2002-2006). Addressing issues and challenges raised at the 2007 inaugural Regional Tourism Summit, Tourism Victoria developed a new Regional Tourism Action Plan 2008-2011 (RTAP, 2007).

The Strategic Marketing Plan (2005 to 2008a), developed by Goldfields Tourism Incorporated in conjunction with Tourism Victoria, backgrounds its current structure, management and resources, discusses its alignment with state-wide marketing strategies and highlights the relevance in relation to the hierarchy of destinations and villages, discussed above. It provides an analysis of international and domestic visitation and overnight visitors and a competitor analysis identifying primary threats and cooperative opportunities with other Victorian regions.

The Plan (2005 to 2008b) also created a vision for the region as being recognised as regional Australia’s premier heritage tourism region and regional Victoria’s events capital. Importantly, regional product strengths were identified as history & heritage, arts & culture, food & wine, touring, festivals & events, parks & gardens and shopping. Potential markets were also identified including intrastate and interstate domestic visitors, e.g. South Australia, regional NSW, Canberra and Tasmania and international target markets, e.g. Singapore, Europe (UK/Germany), USA, Japan and New Zealand. Several value market segments also identified were the Socially Aware, Visible Achievers and Traditional Family Life (Strategic Marketing Plan, 2005 to 2008c).

Other issues addressed in the 2005 to 2008 plan relate to the directions of the State Government's 10 Year Tourism and Events Industry Strategy. This Strategy discusses such key points as the economic contribution of tourism and events, recent Growth, Victoria’s competitive advantages, distinctive, consistent and well-targeted advertising, lifestyle experiences, major events, business events, direct inbound flights and international education (DIIRD, 2006).
Tourism Victoria gave an update on the Regional Tourism Action Plan (RTAP, 2007) for 2008 to 2011 advising that the industry consultation phase was completed and a draft RTAP released for comment. Key stakeholders were then involved in discussion of the directions of the plan (Tourism Victoria, Newsletter No.10, 2008).

The 2008-2011 plans, now covering the current period 2009-2012, replaced previous Regional Tourism Development Plans and focused on four key cross-regional issues:

- Industry structures
- Investment attraction
- Destination marketing
- Skills, service standards and sustainability

(Tourism Victoria, 2009a, Regional Tourism Action Plan, 2009-2012).

**Goldfields Branding**

Branding is uniquely positioning a product, in this case a location, to make it the most compelling and appealing to its prospective customers, an identity which cannot be easily copied and communicates the desired brand image (Reid Neubert, n.d.). In relation to branding, the Strategic Marketing Plan, 2005 to 2008c nominates key branding benefits of enrichment, discovery, real (authentic) and connection. It also identifies key attributes for intrastate, interstate and international visitors to the region and details specific strategies for the 2005 – 2008 periods including continuing to highlight history and heritage, raise awareness of the value of tourism and engagement, maintaining a high standard of visitor services, facilitating development of arts, cultural heritage and maximising the tourism benefits from existing and new events.

Building on the aforementioned planning, Goldfields Tourism Inc. have more recently produced the Goldfields Brand Marketing Guide (2008), which offers brand imaging and positioning for the Goldfields region as a travel destination and differentiates it from its competitors, both intrastate and interstate. The Goldfields Brand Marketing Guide (2008), was designed as a marketing and communication guide for use by various stakeholders. The Guide presents a positioning statement presenting a model
based on key features (products) and benefits of the region. These features or attributes include the following:

- Gold Heritage and History
- Arts and Culture
- Festivals and Events
- Gardens & Parks
- Streetscapes & Architecture
- Food and Wine
- Family Holidays

The term ‘benefits’ describes the ways in which the consumer gains from the key attributes offered. Benefits are based on how the product attributes meet the consumers’ needs and wants. Benefits to the visitor are identified for the Goldfields region as enrichment, discovery, real (authentic) and connection and are illustrated in the chart below.
Most recently, the Goldfields has developed a marketing campaign aimed at increasing visitation and dispersal throughout the Goldfields region and offering an intellectual experience, exploiting history, art and culture, the ‘Goldfields. Leave a Little Richer’ campaign’. Targeting Cultural Enrichment Seekers, young families and older couples as high discretionary spenders, the campaign targets those with interests in food and wine, history and heritage or arts and culture. (Goldfields. Leave a Little Richer, Tourism Victoria, 2010, see appendix 2)
Social Media Networking

There has been substantial recent interest in social networking communication tools such as Twitter, Myspace, Second Life and Facebook by small businesses. A 2009 survey by a U.K. mobile-phone operator found that some 17% of Britain’s small businesses were using Twitter. Many of the firms that responded said they were doing this to attract new customers. Some claimed they had been able to save up to £5,000 (over $US8,000) a year by cutting out other forms of marketing in favour of the networking service (o2 Telefonica, n.d.). In another survey of 1,000 heavy users of social networks and other digital media (Razorfish, 2009), it was found that 44% of those following brands on Twitter did so because of the exclusive deals the firms offered to users. The connections made possible by social networks are helping to create new businesses as well as promote existing ones (The Economist, 2010).

In Australia, social networking sites have become a “significant…medium” with Myspace having 100 million users worldwide in 2006 and Facebook 70 million in 2008. Of online Australians 56% have accessed social media sites with 40% nominating Facebook and 33% nominating Myspace as their ‘main’ online profile used in the past three months (ATMA, 2008a).

Booking Channels

In 2008, a review of existing product marketing and booking channels used by both Queensland tourism operators and visitors was undertaken. The channels most commonly used by consumers to book attractions are at the front gate (49%) and via third party methods such as motoring associations (14%), booking desks (11%), travel agents (7%) and tourist information centres (6%). Prior to booking, personal contact is important to many visitors to attractions, especially for international visitors and those visiting natural attractions (QTRA, Tourism Queensland and Tourism Research Australia, 2008a).

Further, the review found that many tourism attractions expect to increase their marketing spending on at-destination channels such as street signage, local television, billboards and sponsorship, as well as through cooperative advertising. The internet is
seen by attractions as an excellent pre-departure planning tool for customers and although not expected to overtake bookings at the destination, an opportunity does exist to grow this segment, especially if the booking system is linked to third parties. While most tourism businesses have a website, the review found, “there is a significantly lower number of attraction provider’s websites with direct booking capability (29%) compared with other tourism sectors such as accommodation (90%)” (QTRA, Tourism Queensland and Tourism Research Australia, 2008b)

A recent study of smaller rural, Scottish, hospitality businesses, “sound evidence” that ICT adoption was “well embedded”, but that while very attentive to the demand side, often businesses were neglecting the supply side functions (Irvine and Anderson, 2008, pp. 200-218).

2.8 Impacts, productivity and ICT applications

In a globalised economy, innovation, whether technical or organisational, has been viewed as critical to business success in tourism (Stamboulis and Skayannis, 2003; Buhalis, 2003; Matlay and Westhead, 2007). The concept E-innovation, the innovation of ICT and e-commerce, can enhance the performance of accommodation enterprises and assist in gaining competitive advantage, according to Milne et al. (2005). Other studies have focussed on ICT applications for better customer relations, (Martin, 2004), a more agile management and image improvement (Camison, 2000) and in supply chain issues (Cagliano et al., 2003). Innovating applications in electronic commerce have posed novel technical, organizational and commercial challenges to the stakeholders involved with any business and can have “critical impacts” (Wu and His, 2008).

Issues small businesses need to decide include whether to develop software in-house or buy an off-the-shelf product and to be aware of the many web-based solutions available without extensive software or hardware investment. Employee training is identified as another important issue. Any investment in new technology requires a business case given the time and money involved and the strategic nature of any purchase (Small Business NSW, n.d., Industry and Investment, ICT impacts).
“The significant contribution of SME means that any productivity gains stemming from the effective use of communication services can be important in driving productivity in the wider economy” (ATMA, 2008f). Productivity has been another focus for researcher interest (Gretzel and Fesenmaier, 2001; Collins et al., 2003; Productivity Commission, Australia, 2003), but investments in ICT alone do not guarantee improved productivity. Investments need to be made strategically (Demopoulos et al., 2008).

Critical of past studies of productivity, which were, “plagued with ambiguities and inconsistencies”, Sigala (2003, pp.1224 - 1225) proposes a new methodology for assessing ICT productivity which was tested in three star United Kingdom (U.K.) hotels. She found that only the full exploitation of ICT networking and “informalisational capabilities” are likely to bring productivity gains from ICT investments. This is particularly so when ICT is fully integrated into business processes and when informational and transformational capabilities along with an alignment of business strategy and operations are in place.

The level of usage of ICT from basic technology - radio, fixed lines telephones and television - to more advanced technology – mobile phones, e-mail, e-commerce, and information processing systems, will vary between industry sectors and individual businesses in the application of tools and complexity required (Kotelnikov, 2007). Driven by consumer demand, new forms of technology for business information flows and global access are emerging, for example, short message service, (SMS), voice over internet protocol (VOIP), multimedia messaging service (MMS), podcasts and video casts, as well as the rapidly evolving use of social networking tools like Myspace, Facebook, Youtube and Twitter (Boyd and Ellison, 2008; McCutcheon, 2009; Kaplan and Haenlein, 2010).

2.9 Models of ICT development

There have been various models of ICT adoption, development and innovation in small to medium businesses since the mid nineteen-nineties as the internet has evolved globally (Ditto and Pille, 1998; Fink, 1998; Werthner and Klein, 1999;
Carson et al., 2003; Nodder et al., 2003). Consumer intention to use online shopping was explored in a study of 281 consumers, applying the Technology Acceptance Model (TAM), which focuses on the ease of use and usefulness to consumers, consumer intention to use online shopping was explored. In addition to ease of use and usefulness, it found compatibility, privacy, security, normative beliefs, and self-efficacy also important. Privacy however, was not. Attitude toward on-line shopping, normative beliefs, and self-efficacy were indicators of future intention to use on-line shopping (Vijayasarathy, 2004).

In addressing the research problem and question 6, three models have been identified and selected to assist in understanding the Goldfield regions level of development. As they represent the development of our understanding of e-commerce in small business, from 1998 to 2002 and then to 2008, they allow a perspective on this development.

The first model of ICT development (Ditto and Pille, 1998) is based on small hospitality businesses in Scotland and proposes three levels of ICT development: (1) informational – a website based on one way provision of information, (2) transactional – enables customer communication through e-mails, telephone or post as well as photographs and “virtual tours”, and (3) relational – where customer interactivity develops a continuous relationship with the Internet as a key factor in enterprise management.

Another later model (Daniel et al., 2002) found four stages of e-Business innovation in small businesses of varying context and industry. The first cluster are where a business is currently developing their first e-commerce services; the second where the business are using e-mail to communicate with customers, suppliers and employees and at the third information-based are websites operating and are developing on-line ordering facilities are available. At level four, advanced adopters have on-line ordering in operation and are developing online payment capabilities.

From the research conducted in this study, for the large part Goldfields regional tourism businesses are at the final stage identified in both these models. They have developed the relational stage of Ditto and Pille, where a continuous customer Internet relationship has evolved and many are advanced adopters identified by Daniel et al.
with on-line ordering and booking in operation though with online payment capabilities less widespread.

However, both the technology and the research into adoption have evolved rapidly. A more recent model for understanding the stages of development with ICT in small to medium businesses gives a better perspective on ICT development. A road map is provided for ICT improvements through “a strategic approach to information technology spending and planned investments” (Demopoulos et al, 2008, pp. 113-114).

Categorising current performance metrics and spending on ICT, they have adapted a model based on Maslow’s hierarchy of needs (1993) and the work of Carr (2004) to apply social science concepts to information technology and the classification of investments. They focus on concrete practices, processes, and recommendations to drive the return on investment of a business IT via key areas for improvement and the value of that improvement to achieve business transformation. Using performance metrics and spending on ICT, they have constructed a four level progression, as below:

**Level 1: ITC Infrastructure & Mandatory Compliance**
Tactical: solid foundation for growth
- Projects include server and storage consolidation, application development, managed services and outsourcing, security

**Level 2: Process and Transaction Optimization**
- Seeks to deliver operating expense reductions by automating key business processes or streamline supply chain and customer transactions
- Projects include supply chain management, human capital management, enterprise resource planning (ERP), sales force and marketing automation and other business process automation projects

**Level 3: Information Optimization**
- Seeks to empower the organization’s decision making with actionable information empowering employees to track key performance indicators, create their own reports and queries, find key information faster and collaborate more effectively.
- Projects include business intelligence, scorecards, dashboards and portals, and data warehouse

**Level 4: Business Transformation – strategic and drives innovation**
- Revolutionary investments seek to utilise business information and implement new processes to empower business capability and agility.

In conclusion, “The research presented here makes it clear that if we are to understand the complex mix of factors that enable effective engagement with ICT by SMTE we will have to step beyond a simple reliance on survey based research, and begin to engage directly with the businesses we are trying to assist” (Nodder et al. 2003).

### 2.10 Summary

Section 1 discussed telecommunications infrastructure, defined e-commerce and noted the recent plans for the implementation of the national broadband network. In section 2 the scope, opportunities and impact of ICT on small business was discussed, the development of ICT in the tourism industry reviewed and small business defined. The impact of SMTE in the Goldfields region was also noted. Section 3 reviews the ranking of Australia with ICT, commitment to tourism development in Australia, its structure and issues, and the growth and economic contribution in various jurisdictions. In section 4, various researches into barriers and benefits are discussed. In section 5, research into activities SMTE need to undertake in leveraging ICT and issues related to strategic management are identified. Section 6 addresses past research into the Goldfields regional SME and SMTE and the general impact on SMTE. Section 7 addresses the development of planning, marketing and branding of the Goldfields region, social media networking and booking channels. In section 8, innovation, productivity and the application of various business software technologies are discussed and in section 9, three models of the adoption on ICT by SME are outlined. In the next chapter, Chapter 3, the methodology for this research is explained.
CHAPTER 3: METHODOLOGY

3.0 Introduction

The purpose of this chapter is to discuss the methodology in addressing the research questions as presented in Chapter 1. Chapter 2 – the Literature Review, outlined research information on the various issues related to the adoption and impact of ICT on small to medium tourism enterprises (SMTE). This Chapter is structured into seven sections. It explains the research design, the selection of participants for interview and the regional survey distribution, survey questionnaire instrumentation, data collection procedures and methods of data analysis.

3.1 Research Design

A research design, “includes the overall approach to be taken and detailed information about how the study will be carried out, with whom and where” (Maykut and Morehouse, 1994, pp 64). In its early development this research was intended to involve a quantitative method for collection of the data required. A survey instrument had been adopted, developed and refined following input from tourism and information technology groups in the Goldfields region. This input has assisted in classifying features of ICT development by SMTE. A statistical package has provided explanations to the survey research questions posed in this thesis.

However, while objectivity of quantitative data was sought, it was believed a more detailed and complete picture of the actual developments in the region could be achieved through inclusion of select in-depth interviews. This was especially important since the electronic survey was considered likely to present only an uncontrolled response. This may have distorted representation of ICT developments in regional SMTE by location, size or type of tourism business. The literature review in Chapter 2 demonstrated that some sectors of the industry, for example, wineries, accommodation and travel agencies were more likely to be applying ICT and the Internet than other types of tourism businesses (Starkov, 2002; Pease and Rowe, 2005). A better balance to the information gathered was required.
This study therefore employs both quantitative and qualitative methods to gather information in the belief that a more accurate view of the developments in the region would be obtained. The interviews ensured examples of the more advanced applications would be captured and that this would give balance to the uncertainty of what may be returned by the survey respondents. The purpose of the interviews was twofold. Firstly, to obtain greater in-depth information than that provided by the survey. Secondly, to trial the survey instrument with a view to making amendments and adjustments before the survey was to be conducted.

While more time consuming, less able to be generalised and open to the subjectivity of the interviewer and interviewee, it was believed that a more accurate picture would emerge by first conducting the in-depth interviews. The in-depth interviews were conducted with a select group of nine small to medium tourist enterprises (SMTE) following discussions and identification with a number of Goldfields regional tourism organisations and individuals. The electronic survey intended to obtain a broad understanding of a range of issues regarding adoption, applications and future intentions of a wide range of SMTE in the Goldfields region. There is further discussion of these issues in section 3.2 below.

3.2 Sampling Frame for Interviews and Sourcing of Survey Participants

3.2.1 The Interviews

Time constraints and recommendations received determined the decision to conduct nine interviews as a representative sample of regional tourism businesses. A number of tourism organisations within the Goldfields region were contacted and asked for their suggestions of businesses that met the criteria above. They included (1) Bendigo Tourism, (2) the e-Commerce Association of Central Victoria, (3) Ballarat Tourism, (4) Ballarat Business Group, (5) the Ballarat Tourist Association (BTA) and (6) Goldfields Tourism, through the Goldfields Campaign Committee, the peak marketing organisation for the region. Several individuals, with expertise in tourism and information technology, were also asked for their views.
Following these consultations, a list of nine tourism businesses from across the region was developed. All nine were invited to be interviewed at their premises in a ninety minute, face to face interview. The interviews were conducted over a period of two weeks from the 16th to the 27th November 2009. All businesses interviewed promoted themselves through the ten Tourist Information Centres (TICs) spread across the region.

Interviewing on site provided a better understanding of the management, operations, resources and appeals of the business as well as particular difficulties which each experienced. While the interviews were structured on the basis of trialling the prototype of the survey instrument, there was considerable scope for drawing out issues, as appropriate.

The selected businesses were also representative of a range of industry categories identified by Australian and New Zealand Standard Industrial Classification (ANZSIC). These encompassed one Parks and Gardens Operation, two Heritage Activities, two Scenic and Sightseeing Transport, two Accommodation and Food Services, one Amusement and Other Recreational Activities and one Creative and Performing Arts Activities.

In addition, the nine selected businesses were from various regional locations; four in Bendigo, two in Ballarat, two in Castlemaine and one in Daylesford. While limited in number, the selected businesses encompassed a variety of locations, sizes and tourism business types. The type of business interviewed, their principal business activities and their ANZSIC classification are identified and tabled in Chapter 4.

3.2.2 The Survey Respondents

The internet survey was intended to obtain an understanding of a range of issues concerning the level of development of ICT and to cast a net as wide as possible across SMTE in the Goldfields region. More specifically, it sought to understand levels of connectivity, the amount of resources and attitudes to ICT. Training, outsourcing of business needs and the use of the internet for online sourcing,
procurement, marketing and sales were all investigated. In addition, the survey sought to understand the perceptions of respondents on the impacts, drivers and inhibitors of ICT adoption.

In March 2009, there were twelve Tourist Information Centres (TICs) located across the Goldfields region according to the Goldfields Tourism Incorporated. These were located at Avoca, Ballarat (two centres), Beaufort, Bendigo, Castlemaine, Maryborough, Daylesford, Heathcote, Wedderburn, Maldon and St Arnaud (see map 3.1 - map of regional towns pp 216).

The Tourist Information Centres varied in their resources, staffing and stages of development. For example, the documents supplied by the TICs listing local businesses varied substantially in sophistication and professionalism of presentation. Major destinations, for example, Ballarat, (two TICs), Bendigo and Castlemaine/Maldon, were able to provide glossy booklets inclusive of accommodation, dining, wineries, maps, booking services, colour photographs and substantial lists of local tourist businesses. By contrast, where the centres were less developed, merely A4 sheets with a list of local businesses seeking business from tourists were able to be supplied.

Each Tourist Information Centre was asked to supply a list of businesses who had registered with them in order to be promoted to visitors and tourists within their jurisdiction. A list containing name, address, contact person, land line telephones, mobile telephones, e-mail and website details of all registered businesses, were supplied by each TIC.

A regional data base was then developed including all Goldfields regional businesses that had signalled their intention to attract tourists by their TIC registration. Thus, while all tourism businesses in the region were not captured, the willingness of businesses to be promoted through Tourist Information Centres across the region, determined their inclusion as part of the cohort for the survey. However, not all businesses promoted by TICs were necessarily viewed as “tourist”. For example, a pharmacist and a photographer had also registered in one jurisdiction. However, on
the basis of their registration, they were included in the cohort to be offered inclusion in the survey.

The initial data bases of the Goldfields region contained six hundred and sixty-six (666) SMTE. Of these, one hundred and eighty nine (189) had no e-mail address and were therefore unable to be contacted electronically. They were therefore omitted from the cohort to be surveyed because they appeared not to be using the internet and perhaps computers at all. The interest of this research was, firstly, in those tourism businesses who were applying ICT technology. Secondly, because of cost, time constraints, convenience and ease of transaction, the survey instrument was to be administered electronically, thus excluding this group from participation.

This group of one hundred and eighty-nine (189) non-electronically connected SMTE are located largely in the more remote small towns and villages in the jurisdictions of the Tourist Information Centres (TIC) located at Avoca, Wedderburn, Maryborough and St. Arnaud. To generalise, they were often hotels, cafes or other retail outlets seeking the custom of tourists, but offering only landline telephone contact or landline and mobile contact in some cases. This may suggest an infrastructure access problem, a lack of knowledge of the business benefits of ICT, or a lack of interest where the “business” is a hobby or retirement activity. A more detailed discussion of the non-electronically connected SMTEs of the region can be found in Chapter 4.

The exclusion of the non-electronically connected SMTE, left four hundred and seventy-seven (477) potential participants in the survey. For ease of transaction, the survey instrument was forwarded in an electronic format, requiring participants to open the document, complete the survey, save it, then attach and forward by return e-mail. The survey had an estimated completion time of thirty (30) minutes.

The survey was promoted to potential participants as offering the individual business an opportunity to audit its own current state of ICT usage and to provide an educative tool for those business operators not so familiar with the various ICT applications available to them. This could perhaps stimulate further investigation of their potential
application to particular businesses. The survey offered “don’t know” responses to many questions to obtain a picture of current knowledge or lack thereof.

While requiring some business background information from respondents, the Survey largely required responses to scale, tick-the-box type questions on ICT issues but with provision for written comments on issues such as business goals and metrics used in the business. In addition to the issues of ICT, respondents were also asked about their current and future views of the global economic crisis (GEC) and whether they had planned for any further economic downturns.

All electronically accessible tourism businesses captured in the data base were initially contacted by e-mail and invited to participate in the survey. The first (25th November 2009) explained the purpose of the Study and the potential benefits to the business operator and the region. Should the business not wish to participate, following this initial contact, they were offered the option to opt out by merely placing “NO” into the subject line and returning the e-mail to sender.

Following the return of sixty-five (65) “NO” responses to the initial contact, a second e-mail was forwarded (2 December 2009) with the survey instrument attached together with a request to have responses back within five (5) days. Thus, four hundred and seventy-seven (477) were initially contacted by e-mail and following sixty-five “NO” responses, as requested in the Subject line of the returned e-mail, this was reduced to four hundred and twelve (412) potential respondents. Following a five day period, and the assessment of the sources of respondents to that time, a third e-mail was forwarded (7 December 2009) as a reminder that completed surveys were due in at 5.00pm that day.

A fourth and final e-mail (23 December 2009) was forwarded to sixty businesses from the Ballarat cohort extending the time for return of surveys until the 12th January 2010. This was undertaken on the basis of fewer responses from that part of the Goldfields region and a need to find some balance in location of business respondents. Responses to this final e-mail brought the total to forty (40). (see appendix 3 - copies of e-mails sent).
As noted above, four hundred and seventy-seven (477) were initially contacted by e-mail. Of the total responses, sixty-five (65) returned a “NO”, an additional (52) were undeliverable and there were fourteen (14) failure notices. Thus, of the 477 SMTE forwarded the Survey, one hundred and thirty-one (131) either declined to be involved or were unable (the undeliverables and failure notices) to be involved. There were therefore, potentially three hundred and forty-six (346) who received the survey and who had not indicated they were unwilling to participate, that is, they appeared willing to participate. There were forty (40) completed surveys returned a slightly more than 10% response.

Two further points are to be made with regard to the survey. First, of the 477 SMTE who were initially forwarded the Survey, 274 had websites with 250 having their own website and 24 being hosted by other websites, e.g. www.ballarat.net. Second, on the basis of the undeliverable and failed notices, 66 in all, it would appear that the Tourist Information Centre data bases need to be reviewed and updated to more accurately reflect active businesses within their jurisdiction. The results of the survey are presented in Chapter 4.

3.3 Survey Questionnaire Instrumentation

The survey instrument was initially developed from research undertaken by the European e-business W@tch, an organisation established by the European Commission under the umbrella of the Enterprise Directorate-General. Surveys by e-business W@tch have been conducted of e-business developments and impacts in 20 manufacturing, financial and service sectors, including tourism, throughout Europe since 2001. During this period, the survey instrument had been refined and the conceptual basis expanded as discussed below (e-business W@tch, 2006 b).

While keeping the key areas to be addressed in the European survey, for the purpose of this research, it was re-adapted to local conditions in language, content and presentation, following consultation with regional tourism bodies and industry consultants. The broad areas retained from the work of e-business W@tch were as follows:

1. ICT Connectivity
2. Skills Development and Outsourcing
3. Online Sourcing and Procurement
4. Online Marketing and Sales
5. ICT Impacts Drivers & Inhibitors

Following the consultations noted above, for the purpose of this research, the survey instrument developed questions around a number of key areas, as follows:

1. Issues of connectivity and networking,
2. The degree of ICT skill development available both internally and externally and outsourcing of ICT needs,
3. Current usage of e-commerce and related business technologies,
4. The extent and success of leveraging customer and supplier electronic interaction,
5. The impact and usefulness of various ICT applications and functions on the business,
6. How business operators see the further commitment to development of the technologies in their businesses

To these areas of the survey, questions regarding the current economic conditions, in particular, the global economic crisis (GEC) were added to the survey instrument. The area of interoperability, contained in the European study, was omitted on the advice of various sources that believed it too technical for most SMTE operators and lacked relevance in the local context.

**Changes made from interviews to survey instrument**

The experience of the interviews together with input from the interviewees, facilitated changes to the questions themselves, the addition of some new issues and amendments to the format of the survey were developed. As previously noted above, the topics common to both, however, remained constant. These were (1) ICT connectivity, (2) Skills Development and Outsourcing, (3) Online Sourcing and Procurement, (4) Online Marketing and Sales and (5) ICT Impacts, Drivers and Inhibitors, together with four additional questions related to the global economic crisis and its potential perceived impact.
The following amendments were made to the survey instrument on the basis of what was learned and suggested from the interviews.

1. The survey placed details of the business, (contact details, staffing, business goals, etc) at the end rather than at the beginning as in the interviews.
2. The numbering and ordering of questions was rearranged to create a better flow and logic for survey participants.
3. At the suggestion of an interviewee, a Glossary was added to the survey, defining key terms, in particular in relation to software, or abbreviations.
4. The psychometric Likert scale was reviewed and expanded in some instances for the survey questionnaire.
5. Specific examples of software applications were now included to assist those not familiar with the terms, e.g. Microsoft Project as an example of planning software.
6. A number of new questions were added to or amended for the survey. With reference to the survey questionnaire, these included:
   - Question 3 where possible network affiliation was expanded
   - A question regarding the employment of e-Business practitioners was omitted
   - Question 6 part (f) was included regarding accessing practitioners able to assist with ICT strategy.
   - Question 8 was relocated to better relate to the issues of staff ICT training issues.
   - Question 14 on projected ICT budget changes in the year ahead was included
   - Question 20 was expanded and re-formatted and part (g) included for specific responses
   - Question 23 (f) from the interviews, a question on Radio-frequency identification (RFID) was omitted from the survey instrument as it had limited application to the interviewees.
   - Question 26 was added to the survey
   - Question 27 had an additional response option added
   - Question 30 had various website functions included to give a better picture of developments undertaken
- The word “mainly” was removed from question 34 allowing a number of selections to be made in order to present a better picture of the sources of customer bookings.
- Question 35 had an additional item (i) removed and developed into the following question where it was more appropriately placed.
- Question 41 was re-written to be more specific in eliciting responses
- Question 44 parts (a) and (b) were re-phrased from a negative to positive statements
- Several sections in question 46 were re-phrased and part (d) included
- Question 67 (parts a to d) was moved from the early section of the interviews to the end of the survey instrument

Listed above then are the amendments made following suggestions from the interviewees and reflection on the needs of those potentially responding to the survey. The strategy of conducting the interviews before the surveys vindicated the approach taken in the design of the methodology.

Below is a cross-referencing of the aims of the Study to the questions in the Survey questionnaire.

<table>
<thead>
<tr>
<th>Table 3.1 Cross-referencing of study aims to questionnaire</th>
<th>Aims of Study</th>
<th>Questions addressing these aims</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Understand issues of connectivity and networking</td>
<td>Q 1 - 3</td>
<td></td>
</tr>
<tr>
<td>2 The degree of ICT skill development available both internally and externally and outsourcing of ICT needs</td>
<td>Q 4 – 12 Q15</td>
<td></td>
</tr>
<tr>
<td>3 The current level of usage of e-commerce and related applications</td>
<td>Q 16 - 29</td>
<td></td>
</tr>
<tr>
<td>4 The extent and success of leveraging customer and supplier electronic interaction</td>
<td>Q 30 - 39</td>
<td></td>
</tr>
<tr>
<td>5 The impact and usefulness of various ICT applications and functions on the business</td>
<td>Q 40 - 42; Q 44 - 48</td>
<td></td>
</tr>
<tr>
<td>6 How business operators see the further development of the technologies in their businesses</td>
<td>Q 13 - 14; Q 43</td>
<td></td>
</tr>
<tr>
<td>7 Questions on the background details of the business</td>
<td>Q 49 - 66</td>
<td></td>
</tr>
<tr>
<td>8 Question 67 (parts a to d), is concerned with attitudes to the global economic downturn</td>
<td>Q 67 (a - d)</td>
<td></td>
</tr>
</tbody>
</table>
A glossary of terms was developed and included with the survey to assist respondents who may be unfamiliar with the vocabulary of information technology and included. When developed, the survey was produced into an electronic form to be attached to the dispatched emails (See appendix 4 - Copy of the survey instrument).

3.4 Data Collection Procedures

Outlined above were the procedures developed to create a regional data base inclusive of all Goldfields regional businesses that have signalled their intention to attract tourists. This was determined by their willingness to be promoted through Tourist Information Centres across the region.

3.4.1 Interviews

The industry category, nature and locations of the tourism businesses interviewed have been outlined above as has the purpose of the interviews and the criteria for selection. While agreement was also reached on a time and day suitable for the respondents to be interviewed at their premises, in one instance, the interview was conducted in a local café as the tour operator business had no premises but was administered largely electronically – a virtual business.

In six of the interviews, the principal (various self descriptors were used - owner, partner, manager, CEO, director, administrator, etc) of the business was interviewed, while in one case the principal and marketing manager together and in two others, the marketing manager only. Generally, most interviews were conducted uninterrupted but in some interviews, the respondent was interrupted during the interview on two or more occasions.

While guided by the questions developed for the survey instrument, there was considerable scope to draw out issues where relevant to the particular business and respondent. For example, one major attraction in Bendigo was intending to spend very little on ICT in the next twelve months, but when questioned, it was found a considerable amount of investment was made in upgrading the organisation’s ICT in the previous year and finance was being directed to other areas of need in the year ahead.
At completion, the interview materials from the nine respondents were collected, collated, reviewed and an analysis undertaken. These are discussed in Chapters 4 and 5 of this thesis.

3.4.2 In-depth Interview Participants

In section 3.2.1, the representative range of ANZSIC industry categories were identified as were their various regional locations. Before discussion of the findings in Chapter 4, four preliminary points are noted here.

Firstly, the businesses are identified by a code from A to I, presented in Chapter 4.

Secondly, while all those interviewed are operating as a business, five of nine are reliant on volunteers for their operations. Of these businesses, two are heavily reliant on volunteers; in one case with few paid part-time staff only, and some partly reliant on volunteers.

Thirdly, some are reliant on sponsorship and grant monies and therefore had limited finance to invest in ICT, sometimes operating with just basic computer equipment and with volunteers to maintain buildings, equipment, gardens, machinery, etc., for example businesses (D & G). This included volunteers developing and maintaining ICT and websites. All business operators interviewed had websites in place with various functional capabilities.

Fourthly, while it may be assumed larger businesses would be more advanced in their use of ICT, at times, smaller businesses were well advanced in their applications. For example, business (B) with just two full time employees and three casual employees operated as a virtual organisation with no office and interfacing both employees and customers with mobile telephone and a laptop.

Finally, a number of the businesses interviewed were associated with other organisations that, in some cases, drove their ICT uptake. For example, business (A)
is associated with the BIG4 network of holiday parks, developed over 30 years, and a well recognised national brand and network with a reputation for high standards, extensive facilities, a friendly atmosphere and international alliances (Big4 Holiday Parks, n.d.). Another example is Business (I) whose ICT needs are supplied through the City of Greater Bendigo, the local government authority (LGA).

### 3.5 Data Analysis

This section outlines the procedures used to transcribe the data prior to its analysis in addressing the research questions.

#### 3.5.1 Analysis Strategy

**Qualitative Analysis**

Following completion of the nine in-depth interviews the information from each was collated, recorded and tabulated with details of each individual business and their responses to questions discussed. A content analysis of the responses, including similarities and differences, was then undertaken. The findings are presented in the next Chapter.

**Quantitative Analysis**

The data from the forty returned survey responses returned from the survey were entered into the Statistical Package for Social Scientists (SPSS), which provided a collation of the responses to each question. It was found that not all questions were responded to by all respondents. A descriptive analysis of the data provided was then undertaken. The findings are discussed in Chapter 4 of the thesis and the conclusions in Chapter 5.

### 3.6 Summary

This chapter described the methodology used to explore the research questions, discussing the rationale for the research design and explaining the reasons for qualitative and quantitative approaches being adopted. The rationale for the sampling framework of the interviews and development of the regional data base has been discussed together with the nature of the cohorts involved. The origin and
development of the survey instrument as applied in the initial in-depth interviews and its further development for the wider regional survey has been discussed. The data collection procedures for both the in-depth interviews and for the wider regional survey have been outlined and the methods of analysis of the data explained. The methodology here has been widely and successfully applied. The findings are presented and discussed in the next Chapter.
CHAPTER 4: FINDINGS AND DISCUSSION

4.0 Introduction

In Chapter 3 the rationale for the methods adopted in this research was explained and the procedures outlined. It was noted that while the prototype interview was used as a guide, the interviews allowed for follow up questions and suggestions from the respondents. Lessons learned were noted through the outlining of the various amendments made to the survey questionnaire.

This Chapter is structured to provide detailed results from both the qualitative and quantitative responses. It first gives an overview of the nine interviewees and then their responses to questions. Following an overview of the survey respondents, responses to the survey questionnaire are discussed. In the Chapter to follow, conclusions and recommendations are made with respect to the research questions of this thesis.

4.1 Regional Interviews

The nine businesses interviewed as part of this empirical study, are identified by an allocated code which together with their business type, their principal business activities and ANZSIC classification are shown in the Table below.
Table 4.1: Descriptors of Interviewee Businesses

<table>
<thead>
<tr>
<th>Business Identification Code</th>
<th>Type of Business and Number of Employees*</th>
<th>Principal business activities</th>
<th>ANZSIC Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business A</td>
<td>Holiday Park 13</td>
<td>camping, caravans and cabins for on-site rental</td>
<td>Parks and Gardens Operation</td>
</tr>
<tr>
<td>Business B</td>
<td>Tour operations company 5</td>
<td>Themed night-time walking and coach tours</td>
<td>Scenic and Sightseeing Transport</td>
</tr>
<tr>
<td>Business C</td>
<td>Accommodation 50</td>
<td>Historic icon, luxury boutique accommodation</td>
<td>Accommodation and Food Services</td>
</tr>
<tr>
<td>Business D</td>
<td>Tour operations company 5 plus 80 volunteers</td>
<td>Steam train tours, heavily reliant on volunteers</td>
<td>Scenic and Sightseeing Transport</td>
</tr>
<tr>
<td>Business E</td>
<td>Museum 9 plus volunteers</td>
<td>Chinese historical and cultural museum</td>
<td>Arts and Culture, Amusement and Other Recreational Activities</td>
</tr>
<tr>
<td>Business F</td>
<td>Accommodation 90</td>
<td>Boutique luxury accommodation, restaurant and functions</td>
<td>Accommodation and Food</td>
</tr>
<tr>
<td>Business G</td>
<td>Historic Home and Garden 6 part time only</td>
<td>Heritage Architecture and Arts, heavily reliant on volunteers</td>
<td>Parks and Gardens Operation, Heritage Activities</td>
</tr>
<tr>
<td>Business H</td>
<td>Administrating major tourism attractions 70 plus 74 volunteers</td>
<td>Science Museum, Tram Tours, Tramways Workshop, Goldmine Tours, Heritage Activities, Scenic and Sightseeing Transport</td>
<td></td>
</tr>
<tr>
<td>Business I</td>
<td>Historic Theatre 19 plus 35 volunteers</td>
<td>Performing Arts and function centre in historic Victorian building</td>
<td>Creative and Performing Arts Activities</td>
</tr>
</tbody>
</table>

* Total Full time, Part time and Casual plus Volunteers

The outlines of the responses which follow are organised under the headings of one to seven discussed in Chapter 1 and conclude with the response to the four questions on the Global Economic Crisis (GEC).

4.2 Responses to In-depth Interview Questions

Internet Connectivity

It is clear that access to broadband internet and mobile telephony is not an issue for the tourism businesses interviewed, some choosing however not to use mobiles. Mobile telephones were identified as the main form of voice communication by
nineteen percent of all Australian SME (ATMA, 2008b). However, it should be noted, all are located in the two major regional cities and in two major towns in the Goldfields region. This resulted in various differences from the survey part of this research where many of the forty respondents are located in more remote areas of the region.

Broadband has a key role in enhancing business productivity. Among all Australian SME, ninety-two percent have internet connection and ninety-one percent use broadband with eighty-eight percent in non-metropolitan areas. However, of all SME not taking up broadband, thirty-eight percent commented on the lack of availability in their area (ATMA, 2008c).

While all interviewees had broadband, three did not have wireless connection either for cost considerations or for security and privacy issues. A majority of businesses did not have remote access from outside the business to the business computer network with just three providing this access for employees. While one respondent did not know if this was provided, another respondent saw it as essential, for example, so that diaries, bookings, rosters, etc. could be shared with staff.

All businesses interviewed had fixed line access and all except three (D, G & H) had mobile telephone connections. Fixed line telephones have been identified as the main form of voice communication by seventy-seven percent of all Australian SME (ATMA, 2008d).

Driven by consumer demand, new forms of technology for business information flows and global access are emerging. However, most interviewees, six of the nine interviewed, did not use Multimedia Messaging Service (MMS), tools like podcasts and video casts or Virtual Private Networks (VPN). One did not know of these technologies and one respondent stated, “they were not yet needed”.

Voice over Internet Protocol, (VoIP), for example, Skype, is a relatively new technology that allows computer network connection as a telephone service. It is growing in popularity with calls cheaper than the normal phone network, particularly for long distance and international numbers (Computer Networking, n.d.). A recent
study found thirteen percent of SME in Australia used VoIP, for cost saving and another fourteen percent intends to use VoIP. Interestingly, there was not a large difference between metropolitan (15%) and non-metropolitan (12%) (ATMA, 2008e).

Of the nine respondents, two were using VoIP, two were uncertain and five were not using this technology. Concerns remain over the use of VoIP regarding call quality, overall cost, reliability and other issues. Thus, to date there has been limited uptake. Several of these concerns were expressed by some respondents.

Open source software is a low cost alternative to commercially purchased software. Issues of security, service backup, staff training, the availability of system administrator tools and the number of version upgrades and patches issued by the developer, serve to make most of these businesses avoid its use. However, open source software does have four key advantages - lower cost of ownership, reduced dependence on vendors, easily customised and an improving level of security. Despite the advantages, many businesses do not see an important advantage (Computer Economics, 2005). Only two interviewees used open source software.

Social media is a recent phenomenon with sixty percent of Americans regularly interacting with companies through these media (Morgan 2010). Social networking websites are having an increasing impact on small businesses, perhaps more so than larger businesses, by giving entrepreneurs free access to their audience through services such as Myspace, Twitter, Facebook and many others. These can be readily accessed by instant messenger service, the web, as well as with mobile texting and other media avenues. While with Twitter, for example, users are limited to 140 characters in sending out a message, it helps individuals with service and product marketing, with the social network directing traffic to specific websites and enabling people to stay in touch (Boyd and Ellison, 2008; McCutcheon, 2009; Kaplan and Haenlein, 2010).

A 2009 survey by o2 Telefonica, a U.K. mobile-phone operator, found that some 17% of Britain’s small businesses were using Twitter. Many of the firms that responded said they were doing this to attract new customers. Some claimed they had been able to save up to £5,000 (over $US8, 000) a year by cutting out other forms of marketing
in favour of the networking service (o2 Telefonica, n.d.). In another survey of 1,000 heavy users of social networks and other digital media (Razorfish, 2009), it was found that 44% of those following brands on Twitter said they did so because of the exclusive deals the firms offered to users. The connections made possible by social networks are helping to create new businesses as well as promote existing ones (The Economist, 2010).

Perhaps not surprisingly then, many of the businesses interviewed (six of the nine) are currently using social networking tools like Facebook, Youtube and Twitter, some at an experimental stage and others who have already achieved a good response. Of those not using such networks, (B, D & G) were exploring the possibilities or are constrained by costs or time.

The main disadvantage for small and medium size tourism enterprises (SMTE) like other SME, is that they tend to be time and resource poor, with their size being their main disadvantage with regard to ICT adoption (Werthner and Klein, 1999). A recent study (Braun, 2006) researched the nature of the change process and regional tourism network links when seeking to adopt e-commerce. The study suggests a strong relationship between diffusion of e-commerce and network positioning, both in terms of place (status and position in the network) and space (the geographic make-up of the network). It found diffusion hinged on network cohesion and participants trust in and engagement with the network. All businesses interviewed for this study were connected to at least one local, regional and state based tourism networks, with one (C) to international tourist networks. While recognising the importance of network engagement, the issues of cohesion and trust were not determined among the interviewees.

Skills Development and Outsourcing

The issues of access to expertise in ICT network architecture, security and maintenance had a varied response with only two businesses (A & I) having affiliations which addressed these issues for them. Other respondents had varied views, two (B & D) finding such access very difficult, three (C, E & F) finding it difficult while for others (G & H) it was not a problem engaging such expertise.
Fink (1998) identified knowledge of ICT and consultant and vendor support along with user participation as among factors that determine the level of ICT adoption by small business in general. This issue is of particular concern, with five businesses responding negatively to accessing ICT expertise, having implications for ICT service companies, who perhaps need to review their marketing, costs and service and post service provision.

Radio-frequency identification (RFID) is the use of an object (typically referred to as an RFID tag) applied to or incorporated into a product or person for the purpose of identification and tracking using radio waves. The technology can be used for transport, stocktaking and inventory, retail sales and for human identification. Some tags can be read from several meters away and beyond the line of sight of the reader (RFID Journal, 2010).

With regard to Radio Frequency Identification (RFID), one business met these needs through their affiliation with a larger organisation, one had personal expertise in this area and two had difficulty accessing expertise while another did not. Two saw this issue as not applicable, while two did not recognise the name of this technology. The wide variation here may be related to differences in the size, nature and needs of the business respondents.

Two businesses (A & I) have affiliations which addressed the issue of developing new business solutions for them, while most others found accessing this expertise difficult or very difficult (B, C, E, F, G & H). Only one (D) believed it was not a problem engaging such expertise. Again, two businesses (A & I) had affiliations which addressed the issue of ICT strategy and management for them while one (B) was able to address their own ICT strategy and management issues. Other respondents (C, D, E, F, G & H) found such access to expertise in this area difficult or very difficult. Fink and Disterer (2006) believe businesses need to take a strategic approach to compete and cooperate. ICT interaction facilitates this with customers, suppliers, alliance and network formation.
Again there are implications for ICT service providers in these results. Outsourcing considerations depends on the particular circumstances of the business involved and includes considerations of existing contractual arrangements with service providers, how well their current communication needs are being met, their assessment of their future needs, the size of the organisation and of course its priorities for the human and financial resources available.

Outsourcing of ICT services in the past twelve months had substantially increased for seven of the respondents, while remaining the same for the other two, (B) having the resources internally and (D) with financial concerns. This indicates a wide willingness to invest and develop ICT applications, though apparently, with extensive dissatisfaction with the expertise and services provided.

Regarding the issue of staff attending ICT e-learning programs, only two (E & I) send their staff to such programs on a quarterly basis, while four (A, B, F, H & I) train staff via the internet and intranet, and two (C & G) do not train staff at all but rely on volunteers or recruit staff with the required skills or leave training to be undertaken by the individual employee at their own cost.

We can conclude that most interviewees understand the importance of keeping up with technological developments and are therefore committed to staff training in this area. This is pleasing as various researchers have concluded that constraints on further ICT development include lack of education and technical skills, (Kogilah et al. 2008; Hashim 2007), limited ICT literacy among employees (Khong et al., 2010) and the lack of qualified personnel to develop and maintain the e-commerce system of the enterprise (Tan et al., 2009).

An online booking system will display booking availability in real time on a website and on the selected distributor’s websites. It can accept payments from customers without requiring human interaction, make products or services able to be booked on a variety of the selected distributor’s websites and update inventory when a booking is made (The Australian Tourism Data Warehouse, Bookings, n.d.).
Direct customer booking services were available electronically for all businesses interviewed, most via their website. However, three (D, E, & G) took bookings by e-mail only, two for limited financial capacity and one for security concerns. The respondents appear to have identified some of the most prevalent benefits of ICT adoption. According to Tan et al. (2009) they include reducing operating costs in customer communicating, providing an effective customer communication tool and allowing bigger market exposure leading to new business opportunities.

The channels most commonly used by consumers to book attractions are at the front gate (49%) via third party methods such as motoring associations (14%), booking desks (11%), travel agents (7%) and tourist information centres (6%). Prior to booking, personal contact is important to many visitors to attractions, especially for international visitors and those visiting natural attractions, according to a Queensland study. The internet was seen by attractions as an excellent pre-departure planning tool for customers and an opportunity exists to grow this segment, especially if the booking system is linked to third parties. Direct booking capability was available at (90%) of the accommodation sector, but just (29%) of other tourism sectors (QTRA, 2008b).

Among the interviewees, the percentage of bookings undertaken electronically, either via website, mobile phone or e-mail ranged from less than 5% (A), 20% to 30% (C) and to up to 50% (B), with four (D, F, H, I) reporting between 5% to 10% taken in this medium. For all small business, government research found received orders taken via the internet were 23.3% in 2006-2007 and increased to 23.7 in 2007-2008 (ABS, 2007-2008). The interviewees appear on average to be less than the above figures.

Five of the businesses offered online payment methods to their customers (A, B, C, F, & I) with payment facilities available through third parties (e.g. Travel Click, n.d. & Tickets.com, n.d.) or for (A), through their network partner. This may reflect the increasing confidence of customers in online payment methods, according to the St. George Bank (St. George Bank, n.d.) is also reflected in the study by Furnell & Karweni who found that while consumer regarded security with “some concern”, these “were outweighed by the merits offered by the medium” (1999, pp 372-382).
Despite ten years passing since these findings, this attitude to online payment methods appears to continue.

In a later study of 281 consumers, applying the Technology Acceptance Model (TAM) which focuses the ease of use and usefulness to consumers, consumer intention to use online shopping was explored. In addition to ease of use and usefulness, it found compatibility, privacy, security, normative beliefs, and self-efficacy also important. Privacy, however, was not. Attitude toward on-line shopping, normative beliefs, and self-efficacy were indicators of future intention to use on-line shopping (Vijayasarathy, 2004).

The percentage of interviewees citing ICT spending, as a proportion of their overall budget, indicate an ongoing commitment to further development but with the majority not intending to expand that percentage of expenditure over a four year period, beyond 5%. In the 2007-2008 period up to 5% of the business budget for six of the interviewees was devoted to ICT while one spent between 5% and 10% and two between 10% and 30%, the later having undertaken major spending on ICT during the period.

Currently, less than 5% of the business budget was devoted to ICT by seven of the respondents while two respondents were spending between 10% and 30%. Of these two, one is a virtual business largely reliant on ICT while for the other it is ‘critical’ to the development of the business. In three years time five respondents anticipated ICT spending to be up to 5% with further investments, three believed spending to be between 5% and 10% and one to continue past spending at between 10% and 30%, although the actual dollar expenditure for all businesses is expected to increase.

Many tourism operators, despite reductions in cost, regard their operations as too small to afford the necessary equipment, service on-going maintenance and to meet regular upgrading. By contrast, these operators have most to gain from improved efficiency and the reach provided by advanced electronic communications technologies (ARTH, 2002).
Within the businesses the level of ICT skills is described as high by two interviewees, medium by five and two describing these skills as low. Those describing their skills as high were a virtual business and major historic boutique hotel (B & C) while the two reporting low skills (G & H) were a business reliant on part-time and volunteer workers and a major tour operator.

For most small to medium businesses, employing an ICT professional is neither feasible nor necessary and ICT skills required in operating the business thus medium to low. Expanded outsourcing of more highly technical expertise, as discussed above, has been the result. Fink (1998) identified knowledge of ICT and support as determining the level of ICT adoption by small business while Khong Sin Tan et al. (2010) believed limited ICT literacy inhibits SME business development. Thus, based on the results found in this research, with only two respondents rating their skills high, there is considerable scope for further improvement among most interviewees.

For six of the interview respondents, further spending is seen as crucial in developing their business (A, B, C, G, H & I) while for two (E & F) spending is based on what is required to keep up with suppliers and customers. One respondent (D) although financially constrained, would spend more if ‘someone could demonstrate how best to go about it’. It appears that these operators understand the importance of ICT to their business development.

Technologies for internal collaboration varied substantially between the respondents. All had software to track sales, working hours and payroll or gather other metrics. They all also used software, other than e-mail, to manage capacity or inventory. Eight respondents could send and/or receive invoices electronically and two of the businesses (A & F) use a private intranet.

Software applications for knowledge management, enterprise document management and enterprise resource planning or decision making software again varied between interviewees with three currently not using these applications (A, D & H). Three were using knowledge management (B, C & I), four using enterprise document management (B, C, E & I), three using enterprise resource software (B, C & I) and just one (F) was using planning/decision making software.
With all businesses interviewed having a website presence, all having booking facilities online (three by e-mail only) and five of the businesses offering online payment methods to their customers (A, B, C, F, & I) it would appear that these businesses are at the third level of development, based on the Ditto and Pille (1998) model, detailed in Chapter 5, where customer interactivity develops a continuous relationship with the Internet as a key factor in enterprise management.

However, in the four levels ICT investment roadmap, proposed by Demopoulos et al (2008), also detailed in Chapter 2, we may generalise to identify our participants being at level 2 - process and transaction optimisation. At this Level, ICT investments have sought to reduce expenses by automating key business processes and streamlining customer relations. However, in our sample, the supply side remains relatively static for most respondents, as discussed below.

**Online Sourcing and Procurement**

In regard to procurement and supply issues, online orders as with some other areas of ICT adoption, varied between the businesses interviewed, reflecting a range of tourism business types, the level of financial capability and perhaps awareness of business benefits. Online orders then made up approximately 2% (H), 5% (D & F), 10% (A), 50% (B) and 80% for the two boutique hotels (C & F) of all orders with one (G) where the ICT system was not applied for orders in any capacity. For two businesses (B & E) orders were placed to international suppliers, six (A, C, E, F, H & I) placed orders to national suppliers and seven to regional suppliers. A preference for placing orders to regional suppliers was expressed by a number of the respondents.

Online ordering and e-sourcing activities have stayed the same for most businesses (C, D, E, F, H & I) while procurement activities have increased the number of different suppliers for two businesses (A, B) and, as above, one business (G) is not linked to any suppliers. Only one business (A) was linked directly to an ICT supplier, who is a partner organisation, while no other businesses interviewed were directly linked to a supplier. Only four businesses are accessing business to business (B2B) and/or business to consumer (B2C) marketplaces (A, C, E & H). This may indicate an
immaturity and lack of full exploitation of the potential of using business to business (B2B) and/or business to consumer (B2C) marketplaces to improve quality and cut costs.

The findings above appear to concur with the findings of Irvine & Anderson (2008, pp 200-218) who found in smaller rural hospitality businesses, “sound evidence” that ICT adoption was “well imbedded”, but while very attentive to the demand side, often businesses were neglecting the supply side functions.

**Online Marketing and Sales**

There was some variation in the extent to which the businesses interviewed received customer bookings via their website although all but three businesses (D, H and G, the least financial, relying on volunteers, etc) had this application available. However, there was substantial variation in the percentage of orders taken from customers, one stating less than 5% (A), two between 5% and 10% (F & I), two (C & E) between 11% and 25%. Just one (B), a virtual business, had between 26% and 50%.

While all interviewees could take bookings by e-mail, three (D, G & H) could only take bookings by this medium. In comparison, the Sensis e-Business Report (2009a) of Australian small to medium businesses found 56% of all businesses took orders over the internet and of these just over half (52%) took ten or less percent of their total orders/bookings in this manner. These figures from interviewees may also reflect the attitudes of customers who may want to speak directly to a person when making a booking.

While there are different levels of adoption of ICT and of electronic interaction with customers, they indicate that most businesses are exploiting the benefits identified by Tan et al. (2009), more effective communication with customers, reduced operating costs, enhanced efficiency, bigger market exposure opening new business opportunities and with improved information exchange with customers and enhanced access to market information and knowledge.
With regard to the origin of customer bookings, seven interviewees (A, B, C, D, E, H & I) reported receiving orders mainly from local and regional customers, five (B, C, D, E & H) from national customers (two mainly from this source) and just three (C, F & H) from international customers. Importantly, only one offered website based translation and money exchange rates when customers were making international transactions.

For the year ending December 2009, Tourism Victoria (2010) reported international overnight visitor estimates to regional Victoria had increased by 1.5% to 319,300. Thus, it appears businesses interviewed in this research may not be making enough effort to attract the potential international tourism.

All businesses interviewed said their business website supported marketing and sales processes, provides information and visuals to customers and provided website offers to customers. Almost all businesses were not linked to customers, with only one (D), so linked, indicating a more sophisticated customer relationship.

While most of the businesses interviewed currently use customer relationship management (CRM) software to organise data about customers (B, C, D, E, F, G & I), two did not (A & H), although one of these is currently developing this facility with its nation-wide partner. Those using CRM were asked to rate its benefits as very helpful, helpful or insignificant. Five businesses, found CRM very helpful with effectiveness for marketing, development of products and services and improving customer service, while two agreed CRM was very helpful in marketing effectiveness, e.g. basic mail merges, helpful in improving customer service but not so important in the development of products and services.

In general, use of the CRM application indicates a focus on ICT applications for better customer relations and a level of development and sophistication of businesses processes for this purpose (Martin, 2004). The complexity of adoption and usage will also vary between businesses with some taking incremental steps in developing and others immediately moving to more advanced applications (Tan et al., 2009).
 ICT Impacts Drivers and Inhibitors

For business (B) e-Business is critical to their operations because as a virtual business it relies substantially on ICT. Business (D) thought ICT was very significant in business operations. All other businesses saw e-Business as significant in business operations. This commitment reflects the “strong increases… (in) SMEs that have taken up e-commerce in the past year” (Sensis e-Business Report, 2009b, p 30).

For four of the interviewees (C, E, F & H), ICT adoption was driven by competitors, customers, suppliers and for government tendering purposes. Interviewees (A, B & I) agreed except for government or other tendering activities. However, for two businesses (D & G), ICT adoption was driven only by customer demand. It would appear that from our sample, many sections of the tourism business environment are exerting pressure to drive ICT development.

The issue of security remained the major concern for Australian SME during the 2000 to 2009 period (49% expressing concern in 2006). Legal issues were not identified of concern (Sensis e-Business Report, 2009c). Almost all respondents believed security or privacy issues were not an impediment for practicing e-Business. Unresolved legal issues around ICT, nationally and internationally, were viewed as of limited concern and only one business (E) expressed concerns about security, privacy and legal issues which were considered an impediment for practicing e-Business.

To the question of ICT influence on the business, five of the nine businesses believed it to be a positive influence on revenue growth, efficiency of business processes, procurement costs, the quality of products services on customer service and internal work organisation. However, some businesses believed there was no influence on quality of products or services (D, F & G), no influence on procurement costs (D, F, G & H), and finally, no influence on work organisation (A).

All businesses believed ICT to be a positive influence on the productivity of the business. However, none were able to explain why they had this perception. This may be explained by methods of assessing ICT productivity being “plagued with ambiguities and inconsistencies” (Sigala, 2003, pp 1226). Sigala found productivity
gains from ICT investments are only likely when full exploitation of ICT through networking and “informalizational capabilities” are aligned with business strategy and operations.

For three interviewees, ICT was believed to have a very important influence on competition in the sector (C, D & H), the business organisational structure (D & H) and task and job descriptions (D & I) and for the education and training of employees and the out-sourcing decisions (I). Four others saw it as an important influence on competition in the sector (A, B, E & F) and the business organizational structure (A, B, E, & F), on education and training of employees (B, C, E, & F), on task and job descriptions (C, E, & F) and finally, on out-sourcing of decisions (F).

For several businesses, ICT had less importance for education and training of employees (A & D), the out-sourcing of decisions (A, B, C & D), task and job descriptions (B) and on business organisation structure (C & I). Other businesses, however, saw no impact from ICT on task and job descriptions (A & H) and the education and training of employees and the out-sourcing decisions (D & H). One business (G), saw ICT as having no influence on all areas. Clearly all but one respondent, whose ICT usage is limited, saw ICT as having an important influence, to varying degrees, on their business operations.

With regard to business functions, ICT was perceived as having a high impact on management and control (C, E, H & I), on administration and accounting (A, B, C, E, F, H & I), on research and development (A, B, E, H & I), on marketing & sales (A, B, C, E, F, H & I), on customer support (A, E, F, H & I) and for logistics and inventory (E & H & I). ICT was believed to have a medium impact on management and controlling (F), administration and accounting (D), research and development (C, D & F), customer support (C ) and logistics and inventory (C, D, & F).

ICT was also considered to be low impact on management and controlling (D, A), logistics and inventory (A), customer support (B) and for business (G), it was perceived as having a low impact on management and controlling, administration and accounting, research and development, marketing and sales and customer support and on logistics and inventory. Others perceived ICT as having no impact on logistics and
inventory issues (I), and not relevant to marketing and sales and customer support (D).

In the view of respondents the positive impact of ICT was felt on business functional areas to varying degrees across all businesses with just two exceptions, one constrained financially and the other having non-electronic logistics and inventory tracking methods.

Over the past 12 months, various businesses interviewed believed ICT was directly related to differing innovative activities. For example, new or improved products or services (A, B, E, & I), new or improved business processes (A, B, E, H & I), improved productivity (A, B, F, H & I) with leveraging cooperation with industry and tourism networks (A, B, E, & F), helping to meet customer expectations (A, B, D, F, H & I), supplier relations (E, I) and business impact on international markets (E, F & H).

Others strongly agreed, over the past 12 months that ICT had assisted in the development of new or improved products or services (C & G), new or improved business processes (C & F), leveraged cooperation with industry and tourism networks (C & I), helped meet customer expectations through on-line information and services (C & G), facilitated new and/or improved customer service (B, F & G) and improved supplier relations (B & G).

Substantial agreement was also found that ICT had facilitated new and/or improved customer service and supplier relations (A), new or improved products or services (A, D & F), assisted new or improved business processes (A & D), improved productivity (A, D & E), leveraged cooperation with industry and tourism networks (A, D, G & H), helped meet customer expectations through on-line information and services (A & E), facilitated new and/or improved customer service (D & H) and improved supplier relations (D & H). Finally, in five businesses, ICT was seen to have had little or no impact on new or improved business processes (G) and no impact productivity (G), on accessing international markets (A, G, D, & I) or on new or improved products or services (H). The impact on international markets was uncertain for (B & C).
Impact of the global economic crisis

The sub-prime loan disaster of 2007 and the collapse of Lehman Brothers in late 2008, (Sarro and Pak, 2008) in the United States, developed into a global financial crisis. Large European and American financial institutions had substantial difficulties with other financial institutions rapidly losing confidence. As a result, worldwide financial markets ceased functioning with credit worldwide increasingly unavailable and a global economic crisis has resulted. Recovery in the real economy has been weak. A new regulatory regime is yet to be established with differing views between the E.U. and the U.S.A. and, indeed, within members of the European Community (Schneider and Cho, 2010).

The interviews contained five survey questions related to the global economic crisis, the first dealing with impact on the business from in the past year, the second on the expected impact in the next twelve months. The third asked if business strategies to lessen any negative impacts had been developed and the final question whether the global economic crisis was expected to last more than twelve months. Respondents were asked to indicate their view on a scale of one to five with (1) for disagree through to (5) agree.

The results indicate variation in the views of the impact of the global economic crisis from the previous year with some claiming to have experienced a downturn while others had not and one was unsure. Respondents were not given any other option for a business downturn and it appears to be more a possible cause rather than having been clearly determined. Those experiencing a downturn tended to be high-end market businesses, for example, luxury boutique hotels (C & F) and some tourist attractions (D & H) while others, usually iconic tourist destinations (E & G) had not been affected. One business (A) as a low cost holiday destination had experienced a growth over this period. This may be caused by families bearing higher interest rates on household mortgages, having less discretionary income, a reduction in overseas travel by Australians in favour of domestic holiday travel and a focus on regional iconic tourist activities, for example, businesses (E & G).
For the twelve months ahead, many respondents (A, C, E & H), did not expect any impact from the global economic crisis to continue, but several anticipate that it will do so with an impact lasting more than twelve months ahead (E, D & H). One was uncertain (F). Most businesses had developed, to varying extents, business strategies to lessen any negative impacts although two had not (A & E), with one of these believing the global economic crisis to be of little concern.

These responses may reflect business attitudes across the Victorian community. Business confidence strengthened again to the surprisingly strong levels of November 2009 and demand growth was around 5% (annualised) over the last 6 months of 2009, according to the National Australia Bank (NAB, 2010). The Victorian Employers Chamber of Commerce and Industry, reported in their VECCI-Commonwealth Bank Business Trends and Prospects Survey (VECCI, 2009), that in Victoria an increasing number of business owners believe that the economic crisis either will or has passed and confidence has improved uncertainty. Business conditions were seen to be mixed with some issues, such as climate change policies and consumer confidence, remaining uncertain.

In the tourism sector, the most commonly identified factors constraining business growth over the November 2009 quarter were; environmental factors (including bushfire-related issues), wage costs, business taxes and government charges, and the cost and availability of insurance (VTIC, 2009).

**Summary of Interviews**

In the above section (4.2), the findings from the nine interviews have been discussed and some commentary made. The key points are outlined below.

While the use of ICT technologies varied among respondents, access to broadband Internet and mobile telephony was widespread. All had websites and awareness of the need to exploit social networking tools to promote their business and interact with customers. Only two respondents described their level of ICT knowledge and skill to business as high, five respondents as medium and two as low. There appeared to be a
strong commitment to training and e-learning of staff, both through internal and external provision.

While reliance on service providers and outsourcing of ICT needs had substantially increased for most respondents, a majority of respondents found access to expertise in ICT difficult or very difficult. Current and intended spending on ICT demonstrated a commitment to further development of ICT capability. All businesses interviewed had electronic customer booking services with the percentage of bookings approximated on average the comparable national figures.

However, supplier electronic ordering varied widely with online orders placed largely with national suppliers and regional suppliers. Few businesses ordered internationally. Just one business linked directly to an ICT supplier. There was extensive exploitation of ICT for marketing and sales with information for customers, use of online booking and payment services, special offers and of CRM technologies. However, few respondents were engaged in business to business (B2B) and/or business to consumer (B2C) marketplaces.

Positive impacts of ICT were identified on revenue, growth, efficiency, procurement, customer service, internal work organisation and productivity. In addition, ICT was perceived as an important influence on competition, organisation, education and training and outsourcing as well as having a high impact on a range of management functions.

Customers and competitors were identified as the main drivers of ICT uptake which was perceived as driving innovation in various, both internal and external, business activities. There was only limited concern for ICT security and privacy issues. Likewise, the businesses interviewed did not see legal issues as inhibiting their e-commerce adoption. Attitudes to the current global economic crisis (GEC) varied, but considerable concern was evidenced by most respondents having prepared business strategies to lessen any negative impacts of the GEC.

Finally, most participants were highly aware of ICT; they could identify its many benefits and have developed various technologies and processes, making an on-going
commitment to further ICT development. Areas needing further attention by all businesses interviewed include procurement and supply issues, accessing B2B and B2C marketplaces, delivery of supporting services and consultancies and raising the internal ICT skills.

4.3 Regional Survey

In Chapter 3, the purpose, data base development, selection of interviewees, survey instrument development, administration, responses and the data collection, collation and analysis of the findings was outlined.

The section below commences with an overview of the respondents discussing various details of their size, location and business operations. Responses to the survey are then discussed with commentary made. As with the interview data above, responses are discussed under the following topics:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ICT connectivity</td>
</tr>
<tr>
<td>2</td>
<td>Skills Development and Outsourcing</td>
</tr>
<tr>
<td>3</td>
<td>Online Sourcing and Procurement</td>
</tr>
<tr>
<td>4</td>
<td>Online Marketing and Sales</td>
</tr>
<tr>
<td>5</td>
<td>ICT Impacts, Drivers and Inhibitors</td>
</tr>
<tr>
<td>6</td>
<td>four additional questions related to the global economic crisis (GEC)</td>
</tr>
</tbody>
</table>

4.3.1 Survey Respondents

The major numbers of survey recipients were Bendigo 77, Heathcote 52, Maryborough 50, Castlemaine 47, Ballarat 38, Avoca 32 and various other locations where 18 or less were forwarded. As at 10th December 2009 there were 31 survey responses received. Sixteen (16) of these were accommodation facilities, six (6) were wineries and there were four (4) retailers, two (2) theatres or cinemas, two (2) tour operators and one (1) in the category of museums, galleries and entertainment.

Section 6 of the survey dealt with various details related to the business. These included the name of the business, contact person and their job title, business and
tourism industry experience, their time in the current business and gender and age details. Business addresses and contact details were also collected, along with the business principal activity and product and services offered. Respondents were further asked to nominate, within a range, their gross annual turnover, 15 or 38% opting not to answer this optional question.

An important question related to business goals in the coming 12 to 24 months with 4 or 10% opted not to respond, five citing only one goal, while all others, as requested, citing three (3) goals for their business. The next series of questions related to employee mode of employment (in addition to numbers of volunteer workers) and employee computer use and Internet access. The final series of four questions related to the global economic crisis and its perceived impact in the past and next twelve months, business preparedness through development of a strategy and whether any downturn was expected to last more than twelve months into the future.

**Analysis of Survey Respondents**

There were forty surveys returned. Below is a collation and comments on the various characteristics of the businesses surveyed commencing with owner/management characteristics and then addressing, staffing issues, location, principal business activity, gross annual turnover, connectivity, business goals and finally, the impact of the global economic crisis (GEC).

**Owner/Management Characteristics**

Among the forty respondents, twenty-seven (68%) were male and thirteen (33%) were female. Twenty-one (54%) were aged over fifty-five and seventeen (44%) over the age of thirty-five. One was under thirty-five and one respondent did not supply this information. A study of nature-based tourist accommodation in North Queensland found a different result in gender breakdown with just over sixty percent (60.1%) female and forty percent (40%) male but had similar age breakdown with fifty-six percent (56%) of business owners aged fifty years or older (Carmody, 2008).
While the gender breakdown would appear very similar to ABS figures for male and female business operators in all non-agricultural small business, (60% male and 40% female), approximately two-thirds to one-third respectively, ABS research at June 2004 found 60%, of small business operators aged between 30 and 50 years (ABS, 2004). The contrast with this study may be explained by the nature of the tourism industry and the key characteristics of tourism entrepreneurs who have relatively easy entry with a lack of barriers and the very low skill base for entrants (Hollick and Braun, 2005). Low entry costs present an opportunity for retirees to generate an income, for example, through operating a bed and breakfast business, with lifestyle change also identified as a motivator (Carmody, 2008). The tourism industry in particular attracts numerous entrepreneurs with predominantly lifestyle motives (Getz and Carlsen, 2005).

Respondents varied widely in their answers to the title of their position in the business. Twenty-two nominated themselves as owners (often accompanied by - operator, - partner, - manager, - proprietor and - secretary) with other positions described as acting manager, administrator, director, executive assistant, hostess, manager, motelier, president (of committee of management), promotion and events manager, proprietor, sales and marketing manager and in one case, “master/slave”; presumably a sole proprietor.

There was a wide range of business experience and general experience in the tourism industry between respondents. Business experience ranged between two years and forty-five years, with seven respondents (18%) having less than ten years experience, twelve respondents (31%) having less than twenty years experience and twenty (51%) ranging between twenty and forty-five years experience. A very substantial majority (83%) claimed what may be described as “extensive general business experience”.

The above figures support the age breakdown discussed above, with twenty-one (54%) aged over fifty-five and seventeen (44%) over the age of thirty-five, indicating a majority of business operators being over retirement age and perhaps an indication of a lack of entry of young entrepreneurs. Only one of the respondents was under the age of thirty-five. These age differentials may have implications for the understanding and application of ICT into the surveyed businesses. A broad range of experience was
evident in the tourism industry, from eight months to forty years. Ten of the respondents (27%) had less than five years experience, eleven respondents (28%) had less than ten years, fifteen (38%) less than twenty years and just three (8%) between twenty-five and forty years experience.

The findings indicate that six respondents (15%) had been in their current business for less than two years, ten (26%) between two and four years, eleven (28%) between five and seven years and twelve (31%) between ten and twenty-five years. While almost a third of respondents may be described as very experienced in the tourism industry (between ten and twenty-five years), there were sixteen (15% plus 26% = 41%) who may be described as inexperienced (less than four years) in tourism.

Typically, there will be many issues to attend in developing the business and potentially, limited finance while this is being undertaken. If accurate, these assumptions may impact on the financial capability to develop the ICT functions within many businesses. This question was included in order to indicate the time available to respondents to plan strategies and set goals as well as to develop the business.

**Staffing Issues**

In this section, the numbers and type of employment of staff, full-time, part-time or casual, volunteers (unpaid) engaged in the business was addressed. Due to desk-top research and consultations before data collection commenced, it was expected that many SMTE in the Goldfields region would be micro-businesses, employing five or less staff, family businesses or motivated by change of lifestyle. One study of the tourism industry in Australia found eighty to ninety percent were small businesses, employing less than twenty employees (Beeton and Graetz, 2001). The tourism industry in particular attracts numerous entrepreneurs with predominantly lifestyle motives (Getz and Carlsen, 2005).

According to the Australian Bureau of Statistics (ABS, 1996), full-time employed persons who comprise all persons over 15 years who usually worked 35 hours or more a week and are entitled to paid holiday or sick leave. Part-time workers were
employed persons who usually worked less than 35 hours a week and who have proportional entitlements. Casual employment is a person engaged by the hour and paid on an hourly basis with some other conditions (ABS, 2007). Finally, the self employed, or Own Account Worker, is a person who operates his or her or own unincorporated economic enterprise or engages independently in a profession or trade and hires no employees. Volunteers are willingly unpaid labour (ABS, 1996).

Nilsson et al, (2005, pp 579), found in peripheral regions micro-businesses dominate the tourism industry and their behaviours “can act in many ways as barriers to improvement of the tourism product.” With regard to full time staff, it was found that sixteen businesses (44%) employed one staff member, thirteen (36%) employed two people full time, frequently including the owner/operator and totalling eighty point six percent (81%) of all respondents. In addition over ninety percent (92%) employed five people or less and thus can be classified as micro-businesses. Of the remaining three respondents (8%), one employed seven, one twelve and one fifteen full time staff. Four did not respond to this question.

Only nineteen (48%) employed part-time staff, ranging between one and thirty employees. Five employed one, nine employed two and two employed three, totalling 84%, while of the remaining respondents, one employed five, one employed twenty and one employed thirty part-time workers. Only nineteen (48%) employed casual workers varying from eight businesses (42%) employing two or less casual workers to five employing over twenty or more. While volunteers had played an important role for several interviewees, just five of the survey respondents engaged volunteer labour and one had a substantial number of volunteers. See Table 4.2 below of Numbers of Part Time and Casual Staff Employed.

<table>
<thead>
<tr>
<th>Part Time Staff Employed</th>
<th>Casual Staff Employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Staff</td>
<td>5</td>
</tr>
<tr>
<td>Two Staff</td>
<td>9 &gt; Twenty</td>
</tr>
<tr>
<td>Seven Staff</td>
<td>1</td>
</tr>
<tr>
<td>Three Staff</td>
<td>2</td>
</tr>
<tr>
<td>Five Staff</td>
<td>1</td>
</tr>
<tr>
<td>Twenty Staff</td>
<td>1</td>
</tr>
<tr>
<td>Thirty Staff</td>
<td>1</td>
</tr>
</tbody>
</table>
Questions on computer usage and internet access among employees were included to obtain an indication of the depth of ICT skills and knowledge within the businesses surveyed. Knowledge of ICT and internal support are seen as important to development (Fink, 1998) while limited ICT literacy is perceived as a major drawback (Khong et al., 2010).

In thirteen businesses one staff member used computers while in fourteen just two did so. Eight respondents indicated that between three and seven staff members used computers in the business while two indicated that twenty and twenty-five respectively had this access. One however, indicated that seventy people including volunteers within their organisation used computers.

The percentage of workers accessing the businesses Internet connection was sought. Five did not answer this question and six appear to have misunderstood the question and eighteen indicated that one hundred percent of employees had access, (this may be only one person). Ten indicated between twenty and sixty-six percent had Internet access.

**Location**

Among the respondents, nine were from the major cities (Bendigo seven and Ballarat two), eleven from towns (Maldon 2, St Arnaud 1, Heathcote 3, Creswick 2, Dunolly 2 and Castlemaine 1) and the remaining twenty from villages or other rural locations. Two respondents did not provide a location. The table below, shows the forty businesses who responded by city, town and village/rural location. See table below of respondent’s business location. (See appendix 7 Map of the Goldfields Region showing cities and key towns).
Table 4.3 Location of Survey Respondents Businesses
NOTE: Two locations were not supplied

<table>
<thead>
<tr>
<th>Location</th>
<th>Number of Respondents</th>
<th>Location</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cities</td>
<td></td>
<td>Villages</td>
<td></td>
</tr>
<tr>
<td>Bendigo</td>
<td>7</td>
<td>Amherst</td>
<td>1</td>
</tr>
<tr>
<td>Ballarat</td>
<td>2</td>
<td>Barfold</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Black Range</td>
<td>1</td>
</tr>
<tr>
<td>Towns</td>
<td></td>
<td>Carisbrook</td>
<td>1</td>
</tr>
<tr>
<td>Heathcote</td>
<td>3</td>
<td>Elmore</td>
<td>1</td>
</tr>
<tr>
<td>Creswick</td>
<td>2</td>
<td>Halls Gap</td>
<td>1</td>
</tr>
<tr>
<td>Maldon</td>
<td>2</td>
<td>Harcourt</td>
<td>1</td>
</tr>
<tr>
<td>Dunolly</td>
<td>2</td>
<td>Kingston</td>
<td>1</td>
</tr>
<tr>
<td>Castlemaine</td>
<td>1</td>
<td>Moonambel</td>
<td>1</td>
</tr>
<tr>
<td>St Arnaud</td>
<td>1</td>
<td>Smeaton</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stuart Mill</td>
<td>1</td>
</tr>
<tr>
<td>Villages</td>
<td></td>
<td>Talbot</td>
<td>1</td>
</tr>
<tr>
<td>Buninyong</td>
<td>2</td>
<td>Warrenheip</td>
<td>1</td>
</tr>
<tr>
<td>Junortoun</td>
<td>2</td>
<td>Wheatsheaf</td>
<td>1</td>
</tr>
</tbody>
</table>

With half of the results obtained from beyond cities and towns, the intentions of the survey were met, that is, to capture a broader, more balanced range of tourism businesses from a wider audience than the qualitative interviews provided. It should be noted that while some respondents were outside the defined area of the Goldfields region, these are legitimately included as they were promoting themselves through the Goldfields Tourist Information Centres (TICs) and therefore wanting to attract visitors. The same criteria, registration through TICs, apply to businesses not normally included as tourist; for example, a photographer and a stud farm business.

**Industry Classification of the Survey Respondents**

Previously, a range of industry categories identified by (ANZSIC) were noted as they applied to the interviews undertaken. The survey results showed there were twenty-one respondents whom identified their principal business activity as accommodation and/or hospitality. Included among these respondents were a range of establishments including motels, backpackers, caravan parks, bed and breakfast operators, short term apartments, lodges, hotels and rural cottage hire.

Seven businesses were primarily concerned with amusements and other activities, including an historic theatre offering major performance and events, a harness racing club, a major sporting stadium, a major annual agricultural event organiser, a tour operator, a photographer and an Arts and historical museum. There were five wineries.
who responded, two of which added retail activity. Presumably, some of these are also wholesalers to other regional hospitality tourism businesses and therefore also tourism support businesses. Several respondents described themselves as heritage or heritage and educational attractions. Retail outlets aimed at the tourist market included wineries, bakery, confectionary, a boomerang manufacturer (wholesaler and retailer) and an exclusive furniture retailer. See Table 4.4 below for business classification (ANZSIC) of all survey respondents.

Table 4.4 Business Classification (ANZSIC) – All Survey Respondents
Source: SPSS Analysis with some secondary respondent choices included as they identified more than one principal business activity.

<table>
<thead>
<tr>
<th>Business Classification</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodation and Food Services</td>
<td>21</td>
</tr>
<tr>
<td>Parks and Gardens Operation</td>
<td>4</td>
</tr>
<tr>
<td>Heritage Activities</td>
<td>4</td>
</tr>
<tr>
<td>Scenic and Sightseeing Transport</td>
<td>3</td>
</tr>
<tr>
<td>Amusement and Other Recreational Activities</td>
<td>14</td>
</tr>
<tr>
<td>Creative and Performing Arts Activities</td>
<td>4</td>
</tr>
<tr>
<td>Retail</td>
<td>4</td>
</tr>
</tbody>
</table>

However, many of the businesses are not readily categorised into the ANZSIC framework with some able to be placed within two or more categories. For example, the harness racing club and major annual agricultural event organisation may be seen as Amusement and Other Recreational Activities or Parks and Gardens Operations.

Likewise the tour operator may be classified as Scenic and Sightseeing Transport and/or Amusement and Other Recreational Activities, while the major sporting stadium as Amusement and Other Recreational Activities and food services and hospitality. One accommodation provider is also a trout farm and therefore may be perceived as a Parks and Gardens Operation. Finally, three respondents nominated retail as their primary activity but associated with another tourism business operation, for example, accommodation.

Gross annual turnover

Respondents were asked to nominate, optionally, their gross annual turnover with fifteen respondents choosing not to answer this question. For seven respondents
(28%) their turnover was less than twenty thousand dollars, four (16%) nominated between twenty and fifty thousand, nine (36%) between fifty-one and three hundred thousand and five businesses between three hundred plus and one million. One business reported in excess of one million dollars in gross annual turnover. See Table 4.5 below for gross annual turnover.

**Table 4.5 Gross Annual Turnover**

<table>
<thead>
<tr>
<th>Gross Annual Turnover</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; $20,000</td>
<td>7</td>
</tr>
<tr>
<td>$20,000 to 50,000</td>
<td>4</td>
</tr>
<tr>
<td>$51,000 to 300,000</td>
<td>9</td>
</tr>
<tr>
<td>$301,000 to 1,000,000</td>
<td>5</td>
</tr>
<tr>
<td>&gt; One million</td>
<td>1</td>
</tr>
<tr>
<td>No answer</td>
<td>14</td>
</tr>
</tbody>
</table>

From the results, we may assume that (28%) of businesses are operating as hobby operations with the operators deriving income from other sources, for example, superannuation or a pension. This assumption is based on the findings above where twenty-one respondents (54%) were aged fifty-five or over and five (13%) of these over sixty-five.

**E-mail, Telephony and ‘snail mail’ Contact**

The table below shows all respondents had e-mail contact available. However, six did not have a landline telephone and sixteen did not have a mobile phone either by choice or poor or no access. Half had a fax machine available and thirteen had a post box address. All but one had a website. See table below for media used by survey respondents.

**Table 4.6. Media used by Survey Respondents**

<table>
<thead>
<tr>
<th>Medium</th>
<th>Respondent Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>e-mail</td>
<td>40</td>
</tr>
<tr>
<td>Landline</td>
<td>34</td>
</tr>
<tr>
<td>Mobile Phone</td>
<td>24</td>
</tr>
<tr>
<td>Fax</td>
<td>20</td>
</tr>
<tr>
<td>P.O. Box</td>
<td>13</td>
</tr>
<tr>
<td>Website</td>
<td>39</td>
</tr>
</tbody>
</table>
**Business Goals**

Respondents were asked to nominate their three main business goals for the next twelve to twenty-four months. This question was included on the advice of a regional information technology consultant who suggested the responses could be indicative of those who were operating as a ‘business’ and those who were operating as a “hobby”, for lifestyle change or as a retirement activity. Research into small to medium tourism businesses suggests that with these motivations and attitudes operators may keep their businesses from developing and even deliberately reject financial and business growth (Getz and Peterson, 2004; Ateljevic and Doorne, 2000).

All but four of the respondents addressed this question. However, five respondents nominated only one goal, four only two goals and one nominated the same goal three times – “survive, survive, survive” – in apparent desperation. Again with fourteen respondents (25%) unable to nominate three clear goals, either poor planning and/or lifestyle change, rather than pursuit of business development are indicated. The table below shows the various goals named with the number of responses indicated in brackets. Some initial commentary is made. For convenience, the responses obtained have been grouped under the following headings: Customers, Business Development, Marketing, ICT issues, Services, Facilities and Regional perspectives. See Table 4.7 below for business goals nominated by respondents for next 12 to 24 months.
<table>
<thead>
<tr>
<th>Topic</th>
<th>Goals Cited by Respondents</th>
<th>Total</th>
<th>Author’s Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customers</td>
<td>Increase customer base (15), increase customers – repeat (1), return (1), audience (1), increase mid-week bookings (1), increase occupancy (2), develop packages (1), improve options for school visits (1), expand membership (1), increase sales (1), grow on-line sales (1), expand retail, wholesale, export (1), increase export market (1), sell (1), growth (1), expand customer offerings (1) more customers (1)</td>
<td>32</td>
<td>The most important goal for respondents was increasing customers or segments, (mid-week, packages, schools) with only two citing international (export) customers. Growing the business</td>
</tr>
<tr>
<td>Business Developments</td>
<td>Business growth (unspecified) (2), expand sales (2), expand (1) improve bottom line (1), increase profits (2), increase rates without losing customers (1), maintain current annual turnover (1), maintain status quo (1), prepare for gaming industry changes (1), “staying open” (1), “develop new “communications” museum” (1), develop sustainability (1), reduce debt (1), survive (1), investigate leasing the business (1), work/life balance (2), more volunteers (1), sustain business level (1)</td>
<td>22</td>
<td>The focus of goals here was increasing, expanding and profitability of the business but a number were negative – maintaining, sustaining, leasing out the business, staying open, reducing debt and surviving.</td>
</tr>
<tr>
<td>Marketing</td>
<td>Marketing (unspecified) (6) – groups &amp; buses (1), co-operative marketing (1), niche (1), expand electronic marketing (1), to increase customers (1), direct marketing-develop, expand, simplify (1), increase promotional events (1) expand export market (1)</td>
<td>14</td>
<td>Marketing issues rated the third goals most cited to various segments and included direct, electronic and co-operative. One only cited promotional events.</td>
</tr>
<tr>
<td>ICT issues</td>
<td>Develop ICT (1), introduce software – reservation (1), accounting(1), electronic ordering (1), planning and analysis (1), ICT training (1), connect to broadband (1), improve website (1)</td>
<td>8</td>
<td>Only 8 respondents cited among their goals ICT issues, implementing various software applications, connecting broadband and website development. Just one cited ICT training as a goal.</td>
</tr>
<tr>
<td>Services</td>
<td>Improve service standards (1), maintain four and a half star standards (1), maintain high standards (1), maximise member benefits (1), expand customer offerings (1) more volunteers (1), provide quality productions (1) improve customer services (1)</td>
<td>8</td>
<td>Few respondents focussed on improved service standards and those who did appeared to have high standards or be aware of there importance.</td>
</tr>
<tr>
<td>Products</td>
<td>Improve product offerings (1), review products (1), develop website product range (1), increase in-house product design (1), provide wide range of entertainments (1), reduce stocks (1)</td>
<td>6</td>
<td>Again, few respondents cited product offerings or improvements as one of their goals despite substantial concern about attracting customers.</td>
</tr>
<tr>
<td>Facilities</td>
<td>Improve facilities (1), construct new cellar door (1), improve all facilities (1) new techniques (1), procedures and standardisation of delivery (1)</td>
<td>5</td>
<td>Even fewer were concerned with improved facilities apparently most considering their facilities adequate.</td>
</tr>
<tr>
<td>Regional Perspectives</td>
<td>Regional – improve awareness and standards and “raise Goldfields to leading wine &amp; gold region of Victoria” (1), improve tourism network collaboration (1)</td>
<td>2</td>
<td>Only two appeared to acknowledge the importance of destination marketing to their individual businesses.</td>
</tr>
</tbody>
</table>

Among the thirty-two citing the need to increase customer numbers, either in general or towards specific target segments (mid-week, packages, schools, niche markets, membership, on-line sales), in excess of fifteen stated this as one of their three priority goals indicating a need to grow their business. However, only two cited increased international customers as a goal, perhaps indicative of a lack of recognition of the potential of this growing tourist segment (International Visitors to Australia, March 2010, TRA). While increased custom was cited as the most important goal overall, just a third of these cited ICT issues, improving, maintaining or expanding customer
services as a priority, with even less focussing on expanding products or developing facilities.

The development of the business, either through increasing, expanding or greater profitability, was the second most frequent choice with twenty-two respondents. While grouped here with business development, several respondent’s goals indicated limited or no interest in growing the business, for example, maintain current annual turnover (1 respondent), maintain status quo (1), finding work/life balance (2), sustain business level (1). However, a number of respondents replied negatively to this as a goal with “staying open”, “reducing debt” or even worse, surviving and leasing out the business cited by some respondents. Some responses would appear to indicate that at least some of the respondents view their business as operating for lifestyle change or retirement activity. Other responses appear to indicate financial or other factors causing respondents business stress, e.g. “survive, survive, survive”.

Marketing issues rated the third most cited with fourteen respondents from various ANZSIC segments including goals for direct, electronic and co-operative marketing. While six were unspecific about their marketing activities, several mentioned particular targets (groups & buses, niche markets, electronic marketing, direct marketing) and others particular purposes; expand export market, increase customers or co-operative marketing. One respondent cited promotional events as a goal.

Development of ICT and related issues was cited of three goals by eight (20%) respondents. The introduction of software for reservation, accounting, electronic ordering, planning and analysis were each cited once by respondents while other goals cited were website improvements and connection to broadband. However, for all the goals cited for the next two years one respondent named ICT training. Considering the importance of research on ICT knowledge for business development, this is of major concern along with limited respondents, as above, concerned for developing ICT including business software.

For those eight (20%) respondents who cited improvements to customer service among their goals, several clearly had in place or were aware of the needs for high standards and/or saw the need to improve further. However, it appears that too many
respondents had limited or little concern for this issue. This is an area of particular concern. The research literature in Chapter 2 highlights this as a very important area in the context of both domestic expectations of a business or destination and international competition for visitors. Please see ‘Conclusions’ in Chapter 5.

Improved products and facilities for customers were among the goals least nominated. Just six cited products and five facilities among their top three goals. As with customer service, noted above, these areas appear not to be receiving the necessary attention. This is especially so in the light of the goal of increasing customer numbers favoured by most respondents. It would appear that most respondents were satisfied with the range and quality of products and the standard and range of facilities currently offered to customers. These were not considered among their highest priorities. This would appear to be putting ‘the cart before the horse’, that is, wanting to increase customer numbers but not giving higher priority to the means (service, products and facilities) to achieve this outcome.

The poor response to regional focus is possibly the area of most concern. Two respondents appeared to understand the importance of destination marketing to their individual businesses with the view of one respondent to, “raise Goldfields to leading wine & gold region of Victoria” and the other to improve tourism network collaboration. The benefits of clustering and of the presentation of the region to visitors and tourists do not appear to be well understood by most respondents. However, in the more detailed results below, there is a strong indication that the majority of respondents were connected to an industry association and local or regional network. Fewer were involved in state, national and even less in international networks.

**Global Economic Crisis (GEC) Impact**

On a five point scale, ranging from strongly disagree to strongly agree, respondents were asked four questions regarding the global economic crisis. The first asked respondents views on its impact over the past twelve months, the second, its impact in the next twelve months, the third on whether they had developed strategies for their business to counter any adverse effects and the final question asked whether they
expected the GEC to last longer than the next twelve months. The responses to these questions are discussed in Section 4.4.

4.4 Responses to Survey Questions

Throughout the findings and discussion/comments below, reference is made to both the actual numbers of responses, as well as the valid percentage of responses, that is, the percentage resulting after missing replies were excluded. The survey instrument included a glossary defining technical terms and abbreviations in order to assist respondents.

Section 1 ICT and Connectivity

There were three questions in this section each with a number of parts to be addressed. The first dealt with basic issues of connectivity and the second with types of tools enabling information exchange. The third question sought to establish the respondents’ affiliation with various tourism industry and regional tourism networks.

Connectivity

Broadband access was widespread with thirty-six (90%) using broadband and over half of these were from villages or other rural locations. Obtaining broadband access was a priority goal for one business; we may presume that for the three others broadband is not accessible due to remoteness or cost. However, this result exceeded the author’s expectations given that over half were from villages or other rural locations. A Local Area Network (LAN) is a group of personal computers linked together in order to share programs, data, and peripherals (Bigpond, Telstra n.d.). A Local Area Network (LAN) was used by twenty-seven (68%) two thirds of respondents adopting this technology. A substantial majority twenty-eight (72%) did not have remote access to their business computer networks and only four (10%), provided remote access for employees. Voice over Internet Protocol (VoIP), telephone over the Internet, e.g. Skype, is a lower cost technology for calls nationally and internationally. This was used by fourteen (37%) of the respondents.
Thirty-three (83%) had access through fixed line connections, thirty-one (78%) were using mobile phone connection while seventeen (43%) were enabled with wireless local area network. Six (15%) were using a multi-media messaging service (MMS) and only three (8%), podcasts or video casting.

**Tools Enabling Information Exchange**

Social networking media technology (e.g. Facebook, Twitter and Youtube) was used by eight (20%) of the survey respondents and by six of the nine interviewees. This would appear to be of particular concern and it appears to indicate that many businesses are not keeping up with the technology nor taking advantage of a low cost promotion and advertising media. Three (8%) were using a virtual private network (VPN).

This is unsurprising as sixteen businesses (44%) employed one, and thirteen (36%) employed two full time staff, a total of eighty percent (81%) of respondents classified as micro-businesses. Finally, on the application of open source software five (13%) were applying this free, non-copyright technology.

**Tourism Industry and Regional Tourism Networks**

This section sought to find how well the respondents were connected with industry associations and tourism networks at various levels. It was found that twenty-five (63%), almost two thirds were involved with an industry association, e.g. hoteliers, bed & breakfast. Ninety percent were involved in a local tourism network, reflecting awareness of the benefits of networking in leveraging business involvement. Twenty-seven (69%) of the respondents were involved with a regional tourism network, while over half, twenty-two (55%) were involved with a Victoria wide tourism network. Nine (23%) were connected to a national network and four (10%) to an international network thus far less extensive than the local, regional and state based networks.
Section 2 Skills Development and Outsourcing

In this section, questions related to access to ICT skills, both internally and through outsourcing, issues of commitment to ICT training and access to external training organisations and e-learning. Other issues included rating the level of ICT skills within the business, customer booking processes and ICT expenditure and investments.

ICT Skills Access

Issues related to access to ICT skills found five (13%) who employed an ICT practitioner while, twenty-nine (73%) had no difficulty employing someone with the required ICT skills for their business. That many did not employ an ICT practitioner may indicate they had never attempted to do so due to business size, commitment to ICT, finance, etc.

Almost fifty percent responded “don’t know” to accessing ICT practitioners and external service providers for various services while thirty to forty percent had no difficulty finding this expertise. Most thirty-five (88%) responded that there had been no change in outsourcing of ICT services. This appears to indicate that there is very limited need, willingness or perhaps interest in further updating ICT technology currently in use.

Educational Issues

Educational issues appeared to be a low priority to respondents with thirty-seven (93%) appear to be undertaking no ICT training of staff and thirty-two (80%) not using e-learning. In terms of expenditure on ICT training for employees, two respondents spent up to two-thousand dollars and one up to five thousand per annum.

With regard to accessing ICT and e-commerce training providers there were varied responses but twenty-one (53.8%) neither agreed nor disagreed, (read as had no opinion or did not know). However, e-learning was not defined even the positive responses may view this differently, from surfing the web to formal training.
programs. In addition, 16 (36%) rated their ICT skills as low, twenty-one (53%) as medium and just three (8%) as high. Implications of this are of considerable concern.

**Customer Electronic Bookings**

Businesses with electronic bookings for customers gained an even response between those who did and those who did not have this capability. About (60%) of businesses took less than thirty percent of bookings made in this manner and seven (22%) took fifty percent or more of their bookings through an ICT mediated system. This is considered a basic customer service function and thus an issue for many Goldfields SMTE.

**ICT Expenditure and Investments**

As a proportion of budget, spending in the past twelve months was less than five percent for seventeen respondents (44%), less than ten percent for thirteen (33%) with fifteen percent (15%) spending more than ten percent. This may reflect different stages of business (and ICT) development. Five respondents (13%) planned for an increased ICT budget in the year ahead while the vast majority, thirty-three, (87%) expected their budget to stay the same or anticipated a decrease in ICT spending. It appears that many are not intending further ICT development in the year ahead. Again, this is of concern.

**Internal and External Collaboration**

This section addressed the use of various software applications. Seven (18%) of the businesses used an intranet. The vast majority, thirty-two (82%) did not. Only two (5%) used knowledge management software, one (3%) used enterprise document handling and two (5%) used enterprise resource planning. As evidenced here, there was very limited use of these software applications.

Questions about online metrics issues and tracking of various business processes found sixteen (40%) tracked generation of leads for new business and tracked sales. For tracking new customers, twenty (50%) were and eighteen (45%). were not.
Tracking acquisition costs for each customer was undertaken by five (13%), but thirty-one (78%) were not while ten (25%) were tracking of working hours and payroll and human resources. No response was obtained in response to nominating any other metrics collected.

Other software applications used included planning or decision making software used by five (13%), online applications to manage inventory was used by nine (23%) with ten (25%) using metrics for managing capacity. Higher results, twenty-six (65%) were found to be transacting invoices electronically.

There was a greater discrepancy in acquisition costs between respondents, for each customer, tracking of working hours, payroll and human resources where over 15 (70%) were not using these applications. There was no response when asked to nominate any other metrics collected. The greatest discrepancy was in question twenty-three concerning the use of planning or decision making software where eighty-five percent (85%) were not using this technology.

Section 3 Online Sourcing and Procurement

This section addressed issues of electronic dealing with suppliers, location of suppliers and expansion of supplier options. Approximately half were placing orders to suppliers electronically. Five businesses (24%) were placing a substantial percentage (fifty and eighty percent) of orders online, six (28.5%) with ten percent with (40.7%) placing ten percent or less. A majority, twenty-six (65%) supplied orders by e-mail.

Regarding the source of suppliers, whether regional, national or international, thirteen (33%) responded with “none”, six (15%) nominated regional only and three (8%) national only. Ten (25%) dealt with regional and national suppliers and seven (18%) dealt with suppliers from all three locations. Just seven (18%) had increased the number of different suppliers were using the Internet to source a wider variety of supplier options. Three (8%) were linked through their ICT systems to that of suppliers. With only half of the survey respondents engaged electronically with
suppliers, and few increasing the number of different suppliers, it appears this area is highly underdeveloped.

**Section 4 Online Marketing and Sales**

In this section, the focus was on customer service issues including website functionality, booking facilities, the origin of online bookings or orders, use of customer relations software and other software for interactive purposes including sales and payment options.

It was found that thirty-nine (98%) of respondents had a website and thirty-eight (97%) had their own domain name. In relation to website functionality, thirty-eight (97%) had photographs; one (3%) was using video clips and three (8%) music or other sounds. In regard to testimonials, maps and links to other local businesses, fourteen (38%) had testimonials on their website, thirty-one (80%) had maps, while thirty (77%) had links to other local businesses.

Customer orders for goods or to book services via website was utilised by twenty-seven (69%) and thirty-four (87%) took orders or bookings via e-mail. Of these, fourteen (36%) received less than five percent, seven (18%) received between five and ten percent, nine (23%) receiving between twenty-six and fifty percent and nine (23%), receiving between fifty-one and one hundred percent. The largest number, thirteen, (35%) drew online bookings or orders from regional, national and international customers, while five (14%) nominated regional only, nine (24%) national only and eight (21%) regional and national and just two (5%) with national or international only.

Issues of customer and supplier dealings comprised seven parts requiring answers on a five point scale from “1 disagree” to “5 agree”. Fifteen respondents (39%) agreed or strongly agreed that ICT supported marketing and sales processes and eight (20%) agreed or strongly agreed they were responding to proposals or for tendering. A small number of respondents, three (8%), agreed that they were accessing (B2B) and/or (B2C) marketplaces, fourteen (45%) had online payments facility available and seven (18%) used a software package or customised IT solution for sourcing and
procurement processes. Finally, it was found three (8%) of respondents were linked to customer and three (8%) to suppliers. The remaining businesses were linked to neither.

With regard to the use of Customer Relationship Management (CRM) software, nine (23%) respondents used this software. There were eleven responses to specific applications of CRM. Seven found it helpful and four very helpful for marketing; six found it helpful and three found it very helpful for developing products and services and five as helpful and four as very helpful improving customer service. Thirty-one (78%) did not use CRM software.

Section 5 ICT Impacts, Drivers and Inhibitors

This section was focussed on issues of ICT generally and e-commerce specifically addressing the importance of drivers of uptake, inhibiting attitudes to usage, and impacts on different aspects of the business operation.

Drivers and Inhibiting Attitudes

Asked if they perceived e-commerce as a substantial part of their business operations, twenty (50%) agreed or strongly agreed, thirteen (33%) did not agree it was substantial and seven (18%) were undecided (neutral). The major reason for adopting e-commerce was found to be the demands of customers and from competition. Suppliers and government (tendering) was far less substantial, only eight (20%) citing these as motivators.

Questions on attitudes toward costs of spending on ICT and consisted of eight parts with scaled responses from “1 disagree” to “5 agree”. These questions were answered by all respondents. Slightly over half (53%) believed spending was relevant to their business, eight (20%) did not, and the remainder (28%) were neutral. Eighteen (45%) thought their business was too small so would spend very little. Ten (25%) were undecided (neutral) and fourteen (35%) thought the technologies too expensive. Significant numbers of respondents twenty–six (63%) found ICT too complicated.
Twenty-three (58%), who believed they spent a reasonable amount on ICT, saw value in their investments and intend to spend more to keep up with their customers and suppliers. Asked if they were willing to spend more “if someone could best demonstrate how to go about it” seventeen (44%) agreed or strongly agreed.

On the question of how crucial ICT was to how their business will develop, (13%) strongly agreed and (31%) agreed it was crucial while (31%) were neutral and approximately one-quarter (26%) did not view ICT as crucial to their business development.

On the issues of privacy and security, thirty-three (83%) believed it an important consideration for their e-business activity. However, there was less concern for unresolved legal issues, where twenty-two (55%) were neutral, nine (13%) believed unresolved legal issues as not important, and eight (21%) did see legal issues as important.

**Impacts**

Respondents were asked to rank the importance of ICT to various business activities as negative, no influence or positive. Concerning revenue growth, twenty-seven (70%) believed it positive, just one (3%) as negative and eleven (28%) as having no influence. On efficient business processes, ICT was reported as a positive influence by twenty-four (62%), as negative by two (5%), as having no influence by thirteen (34%). For the importance of ICT on internal work organisation, thirteen (34%) were positive, but the majority of respondents, twenty-three (59%) found the influence neutral.

ICT was considered important for the procurement of supply goods for ten (26%), five (13%) as negative and no influence for twenty-four (62%) of respondents. For the importance of ICT on the quality of products and services eleven (28%) replied positive, twenty-four (62%) saw no influence, and four (10%) were neutral. The influence of ICT on the quality of customer service was positive for nineteen (49%), for two (5%) negative and eighteen (46%) were neutral. With regard to the importance of ICT to productivity of the business, twenty-six (67%) were positive and thirteen (33%) believed ICT had no influence.
The next series of questions asked respondents to nominate on a five point scale, the importance of the influence of ICT on various business activities. Thirty (77%) agreed or strongly agreed ICT had an important influence on competition in their business sector, twenty-one (54%) believed ICT had an important influence on work tasks and loads, with other issues believed of less importance as influences. For example, on organisational structure, thirteen (34%) agreed ICT had an important influence, on decisions to outsource seven (18%) agreed, on employee education and training in ICT, six (15%) agreed and on recruiting staff four (10%) believed ICT an important influence. In sum, the most importance of the influence of ICT was found to be on competition and on work tasks and loads while of less importance were the influences on organisational structure and on decisions to outsource. The least important were the influences on employee education and training in ICT and on recruiting staff.

The next questions asked respondents how they saw the future impact of ICT on various business functions and to rate them high, medium, low or no impact and whether it was relevant. On the future impact on management and controlling, nine (24%) thought the impact would be high, ten (26%) thought it would be medium and by contrast nine (44%) believed it would be low, have no impact or believed it was not relevant.

On the future impact of ICT on administration and accounting, seventeen (44%) thought it to be high, while fifteen (39%) believed the impact would be high and seven (18%) medium. On the question of marketing and sales, twenty-three (59%) believed ICT would have a high impact and six (15.4%) a medium impact. Asked about their expectations on the impact of ICT on logistics and inventory, eleven (28%) thought it high, while nine (23%) thought it would have a medium impact. As to the expected future impact of ICT on customer support, eight (46%) thought the impact would be high while seven (18%) thought it would have a medium impact.

The next question asked respondents to rate, on a scale of 1 disagree to 5 agree, the extent to which ICT had been directly related to improvements in several business functions in the past twelve months. Sixteen (41%) of respondents had found ICT directly related to new or improved products or services, thirteen (33%) did not and
ten (25%) were neutral on this question. Eleven (28%) agreed or strongly agreed that ICT had been directly related to improvements in business processes, thirteen (33%) disagreed or strongly disagreed and fifteen (39%) were neutral.

Respondents were asked the extent to which ICT had been directly related to improvements in customer service. Eighteen (46%) agreed that it had, eleven (28%) believed it had not and ten (26%) were neutral on this question. Seven (18%) believed ICT had been directly related to improvements in supplier relations, but twenty (51%) did not believe improvements had taken place and twelve (31%) were neutral on this topic. With regard to the extent to which ICT had been directly related to improvements in productivity, eleven (28%) believed it had, twelve (31%) disagreed that improvements had taken place and sixteen (41%) were non-committed (neutral).

The final questions in this section concerned access to international markets and asked respondents the extent to which ICT had been directly related to improvements in accessing these markets. It was found twelve (31%) agreed improvements in access had occurred, seventeen (44%) did not think they had and ten (26%) were neutral. As to whether ICT had been directly related to leveraging cooperation with industry or tourism networks, seventeen (44%) agreed, thirteen (33%) did not and again there were nine (23%) who did not have an opinion either way. Twenty-five (64%) believed that ICT had been directly related to better meeting customer expectations.

Section 6 Reactions to the global economic crisis (GEC)

Four questions addressed attitudes towards the global economic crisis (GEC). Concerning the impact of the GEC over the past twelve months, thirteen (33%) believed it had impacted on their business while nine (23%) were neutral and eighteen (45%) believed there had been no impact. Fifteen (38%) anticipated an impact on their business in the next twelve months, nineteen (48%) expected no impact and six (15%) were neutral.

Asked if they had prepared strategies to counter any future impact of the GEC, seventeen (43%) had done so, fifteen (38%) were neutral and eight (20%) had not prepared strategies. As to whether the GFC would last longer that twelve months,
twenty (50%) of respondents believed it would and eleven (28%) of respondents believed it would not. Nine were neutral on this topic.

4.5 Summary

In this Chapter, details from both the qualitative and quantitative data have been presented. Results are reported on both the nine in-depth interviews and the forty electronic survey responses and discussion made on various sections. Responses to interview questions have been outlined in some detail and related to a number of findings from past research in these areas. Amongst our findings were that most participants are highly aware of and can identify the benefits of ICT. They have developed various technologies and processes and are making an on-going commitment to further ICT development. Areas needing further attention by all businesses interviewed include procurement and supply issues, accessing B2B and B2C marketplaces, delivery of supporting services and consultancies, and the raising of internal ICT skills.

A less developed ICT was anticipated (see research problem) from the forty electronic survey responses, randomly returned. It was found that connectivity was not an issue with broadband access (except for a few remote locations). Fixed line (landline) telephone connections and mobile usage were widespread. However, less than half of the respondents had wireless local area network connection and even fewer were using a multi-media messaging service (MMS for photos, videos and text), Pod or video casting. Just one fifth used social networking technology, (e.g. Facebook, Twitter, Youtube, etc.).

While most were involved in a local tourism network and almost seventy percent with regional tourism, less than half were connected to a state based tourism network and fewer still connected to national and international tourism networks. Less than a third were involved with an industry association. There had been no change by most respondents in outsourcing of ICT services in the preceding twelve months and almost two-thirds had difficulties finding outside ICT expertise. Few survey respondents employed an ICT practitioner, but most had no difficulty employing someone with the ICT skills required for their business. Educational issues appeared to be a low priority
to respondents with almost forty percent rating their ICT skills as low and just three percent as high.

Just half of responding businesses enabled customer electronic bookings through an ICT mediated system; however, there was very limited use of knowledge management, enterprise document handling and enterprise resource planning software. Approximately forty percent used online metrics for tracking business processes and fifty percent for tracking sales. Over seventy percent were not using applications for acquisition costs for their customer, tracking of working hours, payroll or human resources. Eighty-five percent were not using planning or decision making software and no response was given when asked to nominate any other metrics collected.

Little more than half of the respondents were placing orders to suppliers electronically with less than a quarter placing more that ten percent of their orders, most by e-mail and mainly with regional and national suppliers. With regard to customer service issues, almost all respondents had a websites, their own domain name, photographs, maps and links to other local businesses, while there was less use of video clips, music or other sounds and testimonials. A large majority took customer orders for goods or to book services via website or via e-mail but less than a third received more than fifty percent of orders in this manner. Orders or bookings received were from regional, national and international customers although a few were from international customers.

Almost half had an online payments facility available. There was moderate agreement that ICT supported marketing and sales processes but few were accessing (B2B) and/or (B2C) marketplaces. Most (thirty-one, 78%) did not use Customer Relationship Management (CRM) software, but respondents who were using this software found it helpful or very helpful for developing products and services and improving customer service.

Half of the respondents perceived e-commerce as a substantial part of their business operations driven by customers and competition while slightly over half (53%) believed the costs of ICT spending relevant to their business. While privacy and
security were believed to be important considerations, there was much less concern
for unresolved legal issues.

In contrast to the interviewees, survey respondents were less committed to ICT
investment and development beyond their website and customer service facilities.
However, some respondents were using different software applications very
effectively. The survey respondents covered a much wider cohort and less developed
businesses than the better facilitated, iconic regional businesses which were
interviewed.

In addition to the needs of the businesses interviewed, (procurement and supply
issues, accessing B2B and B2C marketplaces, delivery of supporting services and
consultancies and the raising of internal ICT skills), the survey respondents, many of
whom were micro businesses, needed information and demonstration of the potential
benefits of ICT to their business. In addition, a better understanding of the importance
of metrics to their businesses, better engagement with networks at state, national and
international levels, understanding of the international market potential and the use of
social networking technology were identified as needed. The significance of ICT and
e-commerce as potential for innovation and business development requires further
attention. In the following Chapter, the focus is turned to what may be concluded
from these findings.
CHAPTER 5: CONCLUSIONS AND IMPLICATIONS

5.0 Introduction

In Chapter 4, the findings from both the qualitative and quantitative data were presented at length along with discussion of the various issues. This chapter considers the conclusions and implications of the issues addressing each of the research questions. The chapter concludes with practical recommendations seeking to provide direction to regional, state and national policy makers and educators as well as the tourism and ICT industries both regionally and beyond.

As noted earlier, we anticipated differences in the stages of ICT development between the nine iconic, reportedly well developed, regional tourism businesses selected for interview and the respondents to the random electronic survey delivered across the region. However, through these two methodological approaches, a better picture and understanding of the region’s tourism industry in its application and perceived impacts of ICT have been captured.

Overview of the Thesis

The principal aim of this thesis was to investigate the adoption, usage and impact of information and communication technologies (ICT), specifically their use by small and medium tourism enterprises (SMTE), largely micro-businesses, in the Goldfields region of central Victoria.

Since the European, Bangemann Report (1994) the adoption of internet-based information and communications technology (ICT) by small and medium enterprises (SMEs) has been extensively researched around the world (Kotelnikov, 2007; Balocco et al., 2009). Investments in ICT in tourism and hospitality have increased greatly in the past decade (Paraskevas and Buhalis, 2002; Sensis e-Business Report, 2009a). Limited ICT related research has been conducted in the Victorian Goldfields area, as noted in Chapter 2 - Literature Review. The research conducted here used both qualitative and quantitative methods with nine in-depth interviews and an electronic
survey of SMTE from across the Goldfields region. There were forty (40) returned surveys.

The thesis incorporates three models of ICT development in SME. First, two early models are outlined and discussed (Ditto and Pille, 1998; Daniel, Wilson and Myers, 2002). Providing a clearer conceptual model, Demopoulos et al. (2008) discusses a road map for ICT improvements through a strategic approach to spending and planned investments. All three models provide a framework for the impact of ICT in Goldfields SME.

The findings are concerned with levels of connectivity, ICT skill development within businesses, the extent of customer and supplier electronic interaction, the marketing and sales exploitation of ICT, and impacts, drivers and inhibitors of adoption. While almost a third of all SMTE in the region were not using the internet, the results of this thesis found widespread connectivity with businesses taking an incremental approach to ICT adoption. There was found to be limited use of software applications, ICT training, social media, dealings with suppliers and strategic applications of ICT. The resulting analysis is expected to provide direction to policy makers and educators as well as the tourism and ICT industries, both regionally and beyond.

The research problem and questions are addressed below in the light of the findings in Chapter 4

The main research problem addressed in this thesis was:

*Despite substantial evidence confirming the critical nature of information and communication technologies (ICT) and their impact on the tourism industry, the application and strategic use of the technology is still very limited across the region.*

Chapter 4 was structured to provide detailed results from both the qualitative and quantitative responses. It first gives an overview of the nine interviewees and then their responses to questions. Then following an overview of the survey respondents, responses to the survey questionnaire are discussed. Chapter 5 attempts to resolve the theoretical aspects discussed in Chapter 2 with the findings from this research. Below,
each research question is sequentially addressed with theoretical discussion complemented by practical implications. In addition, three models of ICT implementation are briefly discussed and the findings related to models which address the research problem above.

5.1 Research Question 1
What levels of connectivity are available to Goldfields SMTE?

For all of the interviewees and most survey respondents, connectivity was largely not an issue. The internet, broadband, mobile and landline telephony were accessible and exploited to varying degrees by all nine businesses interviewed. However, four (10%) of survey respondents could not access broadband, six (15%) did not use fixed line connections and while a substantial majority, thirty-one (78%) were using a mobile phone connection, eight (20%) were not.

This largely concurs with the findings outlined in Chapter 4, where access to broadband internet and mobile telephony fixed line access was widely available in metropolitan and regional areas (ATMA, 2008b). Wireless connection to the internet for interviewees was widespread with only three, either for cost considerations or for security and privacy issues, not using this technology. Only seventeen (43%) of the survey respondents used wireless connection. All businesses interviewed and all but one of the survey respondents had websites. Most had their own domain name. It appears that for a few and only for the most remote, did the issues of connectivity provide any difficulty.

Few businesses provided remote access for employees from outside the business to the business computer network, with only three interviewees and four (10%) of survey respondents replying positively. Most businesses, six of the nine interviewed and fewer of the survey respondents, were not using multi-media messaging service (MMS), nor tools like podcasts and video casts nor Virtual Private Networks (VPN). While just two interviewees were using Voice over Internet Protocol (VoIP), this appeared more widely used (fourteen or 37%) among the survey respondents. This wider use among the survey respondents may be explained by cost factors because of business size and annual income.
Social media networking tools (Facebook, Twitter, Youtube, etc.), to promote business and interact with customers, were exploited by six of the nine interviewees but only eight (20%) from the survey were doing so. It appears that understanding of the business use of social networking technology is not yet widespread and further education of the business benefits is needed. While only two interviewees used open source software, five (13%) of survey respondents were applying this free, non-copyright technology.

All businesses interviewed and surveys received indicated they were connected to at least one and often more local, regional and state based tourism networks, with many connected to more than one. However, while recognising the importance of network engagement just one interviewee was connected to international tourist networks through their website. Of the forty survey respondents, nine (23%) were connected to a national network and four (10%) to an international network. While widespread connection to local and regional websites is a positive for the transfer of local network knowledge and knowledge creation, accessing international markets through international tourism networks appears to be in need of considerable further development.

While the connectivity issues have been addressed from the qualitative and quantitative data collected, of particular concern were the non-participants. From the data base of six hundred and sixty-six (666) small to medium tourism businesses across the Goldfields region, one hundred and eighty nine (189) recorded no e-mail address and thus appeared not to be using the internet and perhaps any form of computer application to their business at all. While the interviewees and survey respondents reported positively on connectivity issues, almost a third of the regional cohort are not at the first stage of ICT engagement (Demopoulos et al. 2008; Ditto and Pille, 1998).

This lack of engagement may be explained by organisation size and readiness, management attitude, limited innovativeness, poor knowledge of ICT, lack of internal support, perceived benefits, financial resources, external factors including competitive pressure, consultant and vendor support and user participation (Fink. 1998). Other
factors inhibiting adoption may include poor telecommunications infrastructure, limited ICT literacy, inability to integrate ICT into business processes, high costs of some ICT equipment, incomplete government regulations for e-commerce and poor understanding of the dynamics of the knowledge-economy (Khong Sin Tan et al., 2010). Additional constraints may include, limited government support, risk, security and legal issues, business complexity and skilled staff recruiting issues (Kogilah et al., 2008; Hashim, 2007).

Many of the above constraints and inhibitions appear to apply based on, for example, organisation size, management attitude to ICT and ICT spending, poor knowledge of ICT, lack of internal support, financial resources and consultant and vendor support. As has been noted, based on income levels, some of these businesses may be ‘lifestyle’ or ‘hobby’ businesses. Many operators are in older age cohorts (over 50% past possible retiring age of 55 years) who may be less aware of the benefits of the technology and cost factors for many small operators, given that (28%) of survey respondents had annual turnover was less than twenty thousand dollars per annum. Isolation from business networks may also be a factor as discussed below.

While the essential tools for connectivity are in place and appear accessible to the large majority of regional tourism businesses, many are not exploiting the technology to the fullest extent. As noted above, few were using various communication tools available to them and adoption of social networking technology for business purposes appears still highly underdeveloped.

All businesses were connected to at least one local, regional and/or state based tourism network with many connected to more than one but far fewer were connected to national or international tourist networks. However, from the analysis of business goals for the year ahead, discussed in Chapter 4, the poor response to regional focus is possibly the area of most concern with just two respondents appearing to understand the importance of destination marketing to their individual businesses. The benefits of clustering through sharing and leveraging of knowledge and the presentation of the regional experience to visitors and tourists do not appear to be well understood by most respondents, in particular, focussing on national and in particular, international tourists.
In sum, the regional business from both cohorts appear well facilitated with the basic tools of connectivity – broadband, mobiles, e-mail, landline phones, websites – but need to further develop business specific applications of suitably appropriate software - multi-media messaging service (MMS), podcasts & video casts, Virtual Private Networks (VPN) and Voice over Internet Protocol (VoIP). The use of social media networking tools and wider tourism industry networking, in particular for national and international marketing are also issues needing addressing. The deepest problem, however, remains that one–third of regional tourism businesses are not electronically connected at all.

5.2 Research Question 2

What degree of ICT skill development is available both internally and externally to SMTE?

Skills training and outsourcing

This question addresses two of the key issues of ICT adoption, that is, the extent of internal ICT skills and the availability of ICT external support. An in-house ICT practitioner was employed by three of the nine interviewees, in one full time, in another casual and with the third, through an affiliation with the City of Greater Bendigo. Among the survey respondents, five (13%) employed an ICT practitioner. None of the interviewees expressed difficulty in recruiting staff with the required ICT skills, while from the survey, only two (5%) expressed such difficulty. That ninety-five percent of survey respondents did not, or did not know, may indicate they have never attempted to do so due to business size, low commitment to ICT expansion, etc.

A majority of all respondents found access to expertise in ICT (network architecture, security, maintenance, business solutions and strategy) difficult, with seven interviewees finding it either difficult or very difficult. For only two it was not a problem engaging such expertise. Approximately a third of survey respondents expressed no difficulty in finding such expertise but two fifths (41%), ‘don’t know’ and difficulties were experienced by approximately one quarter (24%).

For small business in general, knowledge of ICT and consultant and vendor support along with user participation are among factors that determine the level of ICT
adoption (Fink, 1998). This issue is of particular concern, having implications for ICT service companies, who perhaps need to review their marketing, costs, customer service and post-service provision.

In regard to commitment to ICT training of staff and e-learning opportunities there appears to be a substantial difference between the interviewees and the survey respondents. Among the interviewees, two sent staff to ICT training programs on a quarterly basis and four used e-learning programs. Only two did not train staff rather relying on volunteers, recruiting trained staff or leaving training to be undertaken by the individual employee at their own cost.

We can conclude that most interviewees understand the importance of keeping up with technology developments and are therefore committed to staff training in ICT. However, ICT educational issues appeared to be a low priority for survey respondents with thirty-seven (93%) undertaking no ICT training of staff and thirty-two (80%) not using e-learning. In terms of annual expenditure on ICT training for employees, only one of the interviewees spent in excess of $5000 on staff training while all other responded no to this question. Among the survey respondents two spent up to two-thousand dollars and one up to five thousand while thirty-seven (93%) appear to be undertaking no ICT training of staff.

As discussed in Chapter 4, ICT development is constrained by lack of education and technical skills, limited ICT literacy among employees and the lack of qualified ICT personnel to develop and maintain the e-commerce system of the enterprise (Tan et al., 2009; Kogilah et al., 2008; Hashim, 2007; Khong Sin Tan et al, 2010).

The level of ICT knowledge and skill within a business is widely regarded as critical to business success, as discussed in Chapter 1. Very few respondents rated the ICT skills within the businesses as high with the majority as medium and for many low. Of the interviewees only two respondents described these as high, five respondents as medium and two as low while among the survey respondents only three (8%) thought their internal business ICT skills as high, twenty-one (53%) as medium and fifteen (38%) rated them as low. This issue is of considerable concern. Too few perceive
their internal ICT skills as high and too many as low. Both lack of internal support and limited ICT literacy, noted above, act as inhibitors of ICT development.

Not included in the interview sessions, but asked of the survey respondents, were their attitudes towards the supply of ICT and e-commerce training. Over half had no opinion on this question while seven (18%) were not satisfied and eleven (28%) responded that they were satisfied with access to ICT training programs. We may conclude from these responses that there is widespread disinterest, as evidenced in our discussion above, in this issue.

Service provision and outsourcing of ICT services in the past twelve (12) months had substantially increased for seven interviewees but remained the same for the other two, either because of having the resources internally or because of financial restrictions. This indicates a wide willingness to invest and develop ICT applications, though apparently, with extensive dissatisfaction with the expertise and services provided.

For the vast majority of survey respondents, thirty-five (88%) there had been no change in outsourcing, while for two (5%) it had decreased and for three (8%) it had increased. The outsourcing of ICT depends on the particular circumstances of the business involved and may include considerations of existing contractual arrangements with service providers, how well their current ICT needs are being met, their assessment of their future needs, the size of the organisation, the business’ in-house ICT capability and the available financial resources. Thus there had been little change in the outsourcing of ICT services for a substantial majority of the survey respondents while reliance on service providers and outsourcing of ICT needs had increased for seven of the nine interviewees.

Few businesses had trouble employing staff with the ICT skills needed but only a few employed an in-house ICT practitioner. Overall, there was poor commitment to the training of staff in ICT either externally or internally and access to expertise in ICT (network architecture, security, maintenance, business solutions and strategy) was difficult for many. Few rated their internal ICT skills as high with the majority rating them as medium and for many low. The outsourcing of ICT services had increased for
most interviewees in the past year, but there had been little change for the survey respondents.

**ICT Expenditure and Investments**

In assessing the ongoing commitment to further development of ICT it was found that in the past year, most interviewees spent up to 5% of their business budget on ICT while in the current budget, seven interviewees spent less that 5%. In three (3) years time five interviewees anticipated ICT spending to be up to 5% in further ICT investments. While indicating an ongoing commitment to further development, the majority are not intending to expand that percentage of expenditure over a four year period beyond 5% of annual budget.

Seventeen (44%) of the survey respondents spent less than five percent of their annual budget for the past year, thirteen (34%) less than ten percent and four (10%) less than thirty percent. Only two had spent fifty percent or more of their budget on ICT in the past year. Twenty-nine, (77%) expected their budget to stay the same, four (11%) anticipated a decrease and just five (13%) planned for an increased ICT budget in the year ahead.

It appears that too few are anticipating further ICT development. This again is of concern as technology moves forward quickly. This may be reflective of different stages of business (and ICT) development, knowledge or financial constraints. Only five survey respondents (13%) planned for an increased ICT budget in the year ahead while the vast majority, thirty-three, (87%) expected their budget to stay the same or anticipated a decrease in ICT spending. By contrast, all interviewees, to varying degrees, expressed a commitment to further development of their ICT capability evidenced in their current and intended spending on ICT. In conclusion, most businesses expected the percentage of their budgets spent on ICT to remain the same or decrease relative to previous years with few planning increased spending on ICT.
Internal and External Collaboration

Technologies for collaboration, both internal and external, varied substantially between the various interviewees. Perhaps not surprisingly, few businesses used a private intranet. Just two of the interviewees and seven (18%) survey respondents did so while the vast majority, thirty-two (82%) do not. All interviewees had software to track sales, working hours and payroll or gather other metrics and used software to manage capacity or inventory.

Software applications for knowledge management, enterprise document management and enterprise resource planning or decision making varied between interviewees. Three used knowledge management, four used enterprise document management, three used enterprise resource software but just one used planning/decision making software. Three interviewees were currently using none of these applications. However, responses from the survey indicated far less use of these software applications with thirty-seven (93%) not using knowledge management, enterprise document handling or enterprise resource planning software.

This next issue was not part of the interviews but was later included in the survey. It sought to capture the types of metrics and tracking of various business processes being used by the survey respondents. Less than half used online technologies for the generation of leads for new business, tracking sales or for tracking new customers. There were less than one quarter using applications for tracking of working hours, payroll and human resources, managing capacity and inventory, acquisition costs for each customer and planning or decision making software. In short, there had been limited uptake of many proven software applications. Finally, respondents were asked to nominate any other metrics they collected. There were no responses to this question.

Eight interviewees and twenty-six (65%) of the survey respondents could send and/or receive invoices electronically. Largely, the respondents appear to have identified some of the most prevalent benefits of ICT adoption, according to Tan et al., (2009), benefits including reducing operating cost in communicating with customers, an
effective communication tool with customers and bigger market exposure opening the enterprise to new business opportunities.

While there was very little use of a private intranet, all interviewees used software to track sales, working hours and payroll or gather other metrics. All used software to manage capacity or inventory, although there was variation in the use of knowledge management, enterprise document management and enterprise resource planning or decision making. Use of these software applications by survey respondents was very limited. Less than twenty percent used the tracking software, discussed above. The sending and/or receiving of invoices electronically were used by all interviewees and two-thirds (66%) of survey respondents. While some of the above applications may be inappropriate for some businesses, limited use of tracking software and too many without the capability for electronic invoices exchange is of concern.

5.3 Research Question 3
To what extent and how successful are SMTE leveraging customer and supplier electronic interaction?

First, in regard to procurement and supply issues, online orders as with many other areas of ICT adoption, varied between the businesses interviewed and also between survey respondents, reflecting a range of tourism business types, the level of financial capability and perhaps awareness of business benefits.

All but one of the interviewees were placing online orders to suppliers made up of approximately less than 10% or less for of all orders, for four 50%, for one 80%, with two where the ICT system is not used with suppliers in any capacity. By contrast, while the majority of survey respondents, twenty-two (55%) were placing online orders, seventeen (43%) were not. Almost half of survey respondents did not reply to the question on the percentage of orders placed online. Of the twenty-one that did, ten (41%) placed ten percent or less, six (29%) between twenty and thirty percent and five businesses (24%) estimated between fifty and eighty percent of orders were placed in this manner. We can conclude that while many were therefore placing orders online many placed only a relatively small proportion of the orders. Businesses were unlikely
to be taking full advantages of the cost benefits available over more traditional methods of procurement.

In relation to the origin of suppliers, two businesses were placing orders with international suppliers, six placed orders to national suppliers and seven to regional suppliers. A preference for placing orders to regional suppliers was expressed by a number of the respondents. Among the survey respondents, seven (18%) dealt with suppliers from all three locations - regional, national and international, ten (26%) dealt with regional and national suppliers, three (8%) with national only and six (16%) nominated regional only. However, more than forty percent of the survey respondents were not placing orders electronically and very few were placing orders internationally.

Since being introduced to the business, online ordering and e-sourcing activities have stayed the same for most businesses interviewed. When asked if the number of different suppliers had decreased, stayed the same or increased, twenty-six (65%) had stayed the same and seven (18%) had increased the number of different suppliers. Few of the survey respondents linked to suppliers with three (8%) linked but thirty-five (88%) stated they were not and two did not answer.

These findings concur with the findings of Irvine & Anderson, (2008) that, while very attentive to the demand side, often SMTE were neglecting the supply side functions and not enjoying the benefits of value chain development, logistic partnerships, enhanced efficiency, greater access to information and knowledge, information system capabilities and increased productivity (Kogilah et al, 2008; Hashim, 2007). Of all respondents, few appeared to be using the internet to source a wider variety of supplier options. This area therefore appears underdeveloped as there has been no growth in online procurement for most businesses. Thus, supplier interaction remains relatively limited for most, just a small portion of their ordering thus providing extensive scope for developing supply side functions.

All businesses interviewed had their own website and online booking and/or ordering facilities. Almost all, thirty-nine (98%), of survey respondents had their own website, but customer online bookings and/or ordering were available to nineteen (48%), less
than half. These figures demonstrate that a greater commitment will be needed to meet the anticipated increase to customer demand.

There was substantial variation in the percentage of electronic orders taken from customers, with three interviewees having less 10%, two between 11% and 25%, and one (a virtual business) up to 50%. Eight (20%) of survey respondents gave no answer to this question. There were fourteen (44%) who took less than five percent; five (16%) took less than ten percent of bookings and six (19%) who took up to thirty percent in this manner. Seven (22%) took fifty percent or more of their bookings through ICT. As this is increasingly considered a basic customer service function, there appears to be far too many who are not meeting this customer requirement.

In comparison, the Sensis e-Business Report (2009) of Australian small to medium businesses in general, found 56% of all businesses took orders over the Internet and of these just over half (52%) took ten or less percent of their total orders/bookings in this manner.

With regard to the origin of customer bookings, seven businesses reported receiving orders from mainly local and regional customers, five from national customers (two mainly from this source) and three from international customers. However, only one of these three were offering website based language translation and money exchange rates when customers are making transactions. Of the survey respondents addressing this same question, five (14%) nominated regional only, nine (24%) national only and eight (22%) regional and national. The largest number, thirteen, (36%) drew from regional, national and international customers and just two (5%) with national or international only. Three (7%) respondents did not answer this question.

For the year ending December 2009, Tourism Victoria (2010) reported international overnight visitor estimates to regional Victoria had increased by 1.5% to 319,300. Thus, it appears interviewees and survey respondents from this research may not be making enough effort to attract potential of new international visitors.

Specific questions on the extent of website development were not asked of the interviewees but were included in the electronic survey. With regard to various
functions, thirty-eight (97%) of respondents had their own domain name and twenty-five (66%) had set objectives for their website.

While photographs were used widely, videos and music were much less so with just one (3%) using video clips and three (8%) music or other sounds on their website. Testimonials (38%), maps (80%) and links to other local businesses (77%) are fairly widely developed; however, there is considerable scope for further improvement.

All businesses interviewed said in dealing with customers and suppliers, their business website supports marketing and sales processes. Five offered online payment methods, provided information, including visuals and publishing website offers to customers. Four interviewees were accessing business to business (B2B) and/or business to consumer (B2C) marketplaces, perhaps indicating an immaturity and lack of full exploitation of the potential of such marketplaces and a need for more sophisticated supplier relationships. The same questions on interaction with customers and suppliers appear to have been misunderstood based on responses by some survey respondents. Asked if ICT supported marketing and sales processes, only fifteen (39%) agreed or strongly agreed. This question appears to have been poorly stated by linking marketing and sales processes. These should have been separate questions and may have appeared unclear to respondents.

Asked if ICT solutions were used for responding to proposals or for tendering, twenty-eight (70%) were not while eight (20%) agreed or strongly agreed they were responding to such proposals. Thirty-seven (93%) were not using ICT for accessing business to business (B2B) and/or business to consumer (B2C) marketplaces and only three (8%), agreed that they were. Few of the respondents were engaged in business to business (B2B) and/or business to consumer (B2C) marketplaces perhaps indicating an immaturity and lack of full exploitation of the potential offered. With regard to online payments, fourteen (30%) had this facility available, six (15%) were neutral and twenty (50%) did not have online payments, indicating the need for further development of this service to customers.

Twenty-five respondents (63%) did not use a software package or customised IT solution for sourcing and procurement processes while eight (20%) responded with
neutral. Just seven (18%) did use this function. Few of the survey respondents were linked to customers or suppliers with only three (8%) respondents linked to customer and three (8%) to suppliers. The remaining businesses (93%) were not linked or responded with “neutral”.

While seven of the businesses interviewed currently use customer relationship management (CRM) software to organise data about customers, two did not. Those using CRM were asked to rate its benefits as very helpful, helpful or insignificant. Most believed CRM helpful or very helpful with effectiveness for marketing, development of products and services and improving customer service. However, two believed CRM insignificant in the development of products and services. In addressing CRM software, nine survey respondents (23%) were doing so while thirty-one (78%) were not. Asked to rate its utility as very helpful, helpful or insignificant, for marketing activities, developing products and services and improving customer service, seven found it helpful or very helpful for marketing while two found it insignificant. Nine found it helpful or very helpful for developing products and services and in relation to improving customer service. Five found it as helpful, four as very helpful and one thought it insignificant.

While these variations demonstrate different levels of adoption of ICT and of electronic interaction with customers, they indicate that most businesses are exploiting the benefits identified by Tan et al. (2009), that is, more effective communication with customers, reduced operating cost, enhanced efficiency, bigger market exposure opening new business opportunities, improved information exchange with customers and enhanced access to market information and knowledge. By contrast, the development of electronic supplier relations and the sourcing of suppliers through competitive marketplaces appear to still be very under-developed. Likewise underdeveloped is the use of CRM software.

5.4 Research Question 4
To what extent and how successfully are SMTE exploiting ICT tools and media for marketing and sales?

Of primary concern is the original data base of six hundred and sixty-six (666) SMTE across the Goldfields region. One third approximately has no recorded e-mail address
and appear not to be accessing the world electronically. While most of the interviewees and many survey respondents reported positively on issues of connectivity for marketing and sales, almost a third of the regional cohort are disengaged. Their capacity to participate in electronic marketing and sales, both as individual businesses and as part of a regional destination, is negligible. This issue is one of urgency, if the region is to better market all its tourist offerings and develop further as a destination of choice.

The particular functions of electronic sales and marketing are those of major concern for most businesses and the area that appears most developed. This is reflected in the choices made in identifying goals among the survey respondents, where customer focus, business development and marketing were the top future priorities. The particular technologies and issues related to sales and marketing are largely discussed in detail in 4.3.1 above.

In summary, while the essential tools for connectivity are in place and accessible to almost all regional tourism businesses, many are not exploiting the technology for sales and marketing to the fullest available extent.

All businesses interviewed and all but one survey respondents had their own website which most believed supported their marketing and sales processes. The development of websites in providing information, visuals and offers to customers with features like photos, testimonials and maps is widely evidenced. Accessibility of online booking, widespread among interviewees, was limited to a little over half of the survey respondents. Five of nine interviewees offered online payment methods to their customers and fourteen (35%) of survey respondents had this facility available. Only one interviewee and three survey respondents were linked to customers via their website (see recommendation 7)

Almost half of the survey respondents used online technologies for the generation of leads for new business, for tracking sales and for tracking new customers while acquisition costs for each customer were used by five respondents (13%). Among the interviewees, ICT for leads generation, tracking new customers and for tracking sales was evidenced.
Very few interviewees and survey respondents were using multi-media messaging services (MMS), tools like pod or video casts and only one business was directly linked to customers. Social media networking tools (Facebook, Twitter, Youtube, etc) were exploited by six of the nine interviewees but only eight (20%) from the survey respondents. Only one interviewee was connected to international tourist networks and of the survey respondents, nine (23%) were connected to a national network and four (10%) to an international network.

From both the interviews and survey respondents’ extensive exploitation of ICT for marketing and sales and a positive impact on customer service were identified. However, many businesses are not exploiting many of the sales and marketing software and tools discussed above. In particular, new technologies such as social media networking across the region generally are highly underdeveloped and marketing internationally needs further business focus. Thus, while many pleasing features for sales and marketing are evidenced, there is a need for further development especially in the rapidly evolving area of social media (see recommendation 2).

5.5 Research Question 5
To what extent does ICT impact on SMTE, drive the business and what are the inhibitors to uptake?

From all the data collected it is clear that ICT is having a substantial impact across the region, while a range of factors are also identified as inhibiting further development. It is also clear that some businesses are being driven by customers, competition and ICT developments. Below are discussed various drivers of ICT uptake, the range and level of impacts, followed by various factors perceived as inhibiting uptake and further development.

Drivers

All businesses interviewed believed e-Business as significant to business operations with one as very significant and another critical. However, half of the survey respondents perceived e-commerce as a significant part of their business operations,
although one third, did not agree it was significant and a smaller percentage again were undecided (neutral).

Response to customers and then competition were largely perceived as driving ICT adoption, although for some suppliers and for government tendering were also important. For two interviewees ICT adoption was driven only by customer demand, but for all others the remaining drivers were important. It would appear that from the interview sample, many sections of the tourism business environment are exerting pressure to drive ICT development. The major reason for adopting e-commerce among the survey respondents was found to be the demands of customers. Far fewer adopted e-commerce from competition, only eight (20%), citing suppliers and government (tendering) as substantial motivators. In addition to external drivers, some respondents were driven by internal factors, for example, their level of internal ICT skills, employment of an ICT practitioner, or partnerships and associations.

**Impacts**

With regard to impact, the application of ICT was perceived as a positive influence on revenue growth (70%) of surveys, productivity (67%), efficiency of business processes (62%), procurement costs, the quality of products services (34%) on customer service (49%) and internal work organisation (34%). This was supported by five of the nine businesses interviewed, while up to four believed that it had no influence on quality of products services, procurement costs or on work organisation. However, although noted as a positive influence, productivity gains from ICT investments are only likely when full exploitation of ICT through networking and “informalizational capabilities” are aligned with business strategy and operations (Sigala, 2003). Few appear to be achieving this alignment.

The application of ICT was perceived as an important influence at various levels on a range of business activities. For three interviews, ICT had a very important influence on competition in the sector, the business organisational structure, task and job descriptions, the education and training of employees and for out-sourcing decisions. Four others saw ICT as an important influence on competition, the business
organizational structure, education and training of employees, task and job
descriptions and on decisions to out-source.

However for some interviewees, a number of areas including education and training
of employees, the out-sourcing of decisions, task and job descriptions and on business
organisation structure, ICT had less influence. A few others believed it had no impact
or no influence in many areas noted above. Clearly almost all survey respondents saw
ICT as having an important influence, to varying degrees, on their business
operations.

Among the survey respondents thirty (77%) agreed ICT had an important influence on
competition in their business sector, twenty-one (54%) on work tasks and loads, but
less so on organisational structure. Thirteen (34%) believed ICT had an important
influence on decisions to outsource, seven (18%) that it was important on employee
education and training in ICT and six (15%) and on recruiting staff.

Interviewees were questioned directly for the level of impact of ICT on several
business functions - high, medium, low, no impact or no relevance. It was perceived
by four or more as having a high impact on management and controlling, on
administration and accounting, on research and development, on marketing and sales,
on customer support and for logistics and inventory. For some interviewees, ICT had
a medium impact on management and control, administration and accounting,
research and development, customer support and logistics and inventory. For some
individual businesses however, ICT had a low impact, no impact or not relevant on
various management functions. Overall, the impact of ICT was perceived very
favourably in most businesses on a range of functional areas.

The survey respondents were evenly split on the expected future impact of ICT on
business functions for managing and controlling. The levels of future impact on
various functions are detailed in Chapter 4, Section 5. However, far too many
respondents could not see the relevance of the application of ICT to some
management functions. While the future impact was seen as high or medium for many
functional areas, for example, marketing and sales, logistics and inventory and
customer support, there is still much information needed for a better understanding of how ICT impacts positively on business operations.

**Innovative activities**

Over the previous 12 months, various businesses interviewed believed ICT was directly related to various innovative activities. For example, new or improved products or services, new or improved business processes, improved productivity, leveraging cooperation with industry and/or tourism networks and helping to meet customer expectations, were all identified as directly related by between four and six interviewees. Only three identified the ICT impact being directly related to international markets and less than two, on supplier relations.

Three interviewees strongly agreed that over the past 12 months ICT had assisted in the development of new or improved products or services, new or improved business processes, leveraging cooperation with industry and tourism networks, helping meet customer expectations, facilitating new and/or improved customer service and in improving supplier relations. For two businesses, the impact on international markets was uncertain. Others found substantial agreement that ICT had facilitated various innovative activities, but in five businesses ICT was seen to have had little or no impact on various functions.

The survey respondents, in addressing the questions above, largely agreed or strongly agreed that ICT had impacted. However, many did not believe improvements had taken place and strongly disagreed or disagreed, while a considerable number had no opinion. One third did not believe or were neutral on ICT being directly related to better meeting customer expectations. While varied results were expressed by all respondents, clearly many are achieving improvements through ICT.

**Inhibiting Factors**

The following interview issues were expanded for the survey instrument following amendments detailed in Chapter 3. While interviewees were asked to nominate one choice from five possible options for attitudes to ICT costs, survey respondents had
eight possible options with five levels of strongly agree to strongly disagree. More than one choice could also be made. The results, first from the interviewees and then from the survey respondents, were as follows.

There was a clear understanding from the interviewees of the importance of ICT to their business development. Of the nine, six chose further spending as crucial in developing their business, while for two spending was based on what is required to keep up with suppliers and customers. One respondent would spend more if ‘someone could demonstrate how best to go about it’.

More detailed and specific information was obtained from the survey respondents about a range of inhibiting factors in regard to costs and other issues. The findings are listed below:

- Significant numbers of respondents (63%) believed ICT as too complicated or were neutral on this issue
- Twenty-three respondents (58%) will spend more to keep up with their customers and suppliers but nine (23%) will not and seven (17%) were neutral on this question.
- Eighteen (45%) thought their business too small so would spend very little and ten (25%) were undecided (“neutral”)
- About 40% who spent a reasonable amount did not see seeing any value for it or were neutral on this topic
- Fourteen (35%) thought the technologies too expensive with fourteen (35%) neutral
- In regard to ICT spending being relevant to their business, eight (20%) did not believe it was and (28%) were neutral, (57%) implying they will spend very little on ICT.
- Asked if respondents were willing to spend more, “if someone could best demonstrate how to go about it”, seventeen (44%) agreed or strongly agreed while ten (25%) disagreed or strongly disagreed and twelve (31%) were neutral.
- On the important question of how crucial ICT was to their business development, five (13%) strongly agreed it was crucial and (31%) agreed it was crucial while (31%) were neutral and approximately one-quarter (26%) did not view ICT as crucial to their business development.
Thus, in relation to ICT spending, while (44%) believed it crucial to their business and will spend more to keep up with their customers and suppliers (58%), an equal number did not believe it was relevant to their business or were neutral. Eighteen (45%) would spend very little as they thought their business too small or were undecided (“neutral”). About 40% who spent a reasonable amount did not see any value for it or were neutral and significant numbers (63%) believed ICT as too complicated or were neutral. Finally (70%) thought the technologies too expensive or were neutral and 44% would like the technology demonstrated.

The issue of security remained the major concern for Australian SME during the 2000 to 2009 period (Sensis e-Business Report, 2009c). Legal issues were not identified as an issue of concern. Almost all respondents believed neither security nor privacy issues are an impediment for practicing e-Business with unresolved legal issues viewed likewise. Among the survey respondents, thirty-three (83%) believed issues of privacy and security an important consideration for their e-business activity and six (15%) were neutral. However, there was much less concern for unresolved legal issues.

Interviewees saw customers as the main drivers of ICT uptake and development with competitors less so. Suppliers were also driving uptake, while few recognised the potential of government or other tendering activities. ICT was also perceived as driving innovation in various business activities both internal and external. For survey respondents, customers and competition were seen as the main drivers of ICT uptake and development with suppliers and government tendering far less significant.

A substantial minority of survey respondents believed ICT was crucial to how their business would develop, while of the interview respondents all believed it was substantial, but fewer saw it was crucial to their operations. Many of the survey respondents were neutral on this issue and approximately one-quarter did not view ICT as crucial.

Various ICT impacts have been identified by both interviews and the survey respondents as positive including the general impact on revenue growth, efficient
business processes, customer service, internal work organisation and productivity but less so for survey respondents on work organisation, quality of products and services and on procurement costs. In addition, ICT was perceived as an important influence on competition and business organisation as well as having a high impact on a range of management functions (e.g. work tasks and loads) but less so on organisational structure, decisions to outsource, employee education and training in ICT, and on recruiting staff.

In the past twelve months, some respondents found ICT directly related to new or improved products or services, business processes, customer service, access to international markets, improved productivity and improved supplier relations. ICT had also helped leverage cooperation with industry or tourism networks to better meet customer expectations and for some respondents as driving innovation in various business activities both internal and external.

With regard to spending on ICT, most interview respondents saw it as crucial in developing their business and in keeping up with suppliers and customers. Half of the survey respondents believed spending was relevant. Others were neutral or did not believe spending was relevant to their business as they considered the business too small, the technologies, servicing and upgrading as too expensive, or they needed to have benefits demonstrated.

Many tourism operators, despite reductions in cost, regard their operations as too small to afford the necessary equipment, service on-going maintenance and to meet regular upgrading. By contrast, these operators have most to gain from improved efficiency and reach provided by advanced electronic communications technologies. (Australian Regional Tourism Handbook, Industry Solutions, 2002)

In addressing the research question, for many businesses across the two samples, it is clear ICT was directly related to innovation in various areas of the business. There was also strong and substantial agreement by many businesses that ICT had impacted positively on various business functions and activities and that customers and competition were the major drivers of ICT adoption. With regard to inhibiting factors
discussed above, these were largely seen in the survey responses, while for most interviewees spending on ICT was crucial.

Importantly, while the Goldfields Strategic Marketing Plan (2005 to 2008), identifies the need to “Evaluate, update and secure online opportunities, i.e. to drive traffic to visitgoldfields.com”, there is little mention of the promotion or development of the use of information and communication technologies (ICT) or in particular, e-commerce, by individual tourism businesses in the region (Strategic Marketing Plan, 2005 to 2008 pp 23).

5.6 Research Question 6
Based on a recent model of small business development of ICT, where are SMTE in the Goldfields Tourism currently placed?

There have been various models of ICT adoption, development and innovation in small to medium businesses since the mid nineteen-nineties as the Internet has evolved globally. (Ditto and Pille, 1998; Werthner and Klein, 1999; Carson et al., 2003; Nodder et al, 2003; Fink, 1998; Cosh, 2010; Duffy, 2010).

In Chapter 2, three specific models of ICT adoption and development were discussed and rationalised. The Ditto and Pille (1998) model was based on small hospitality businesses in Scotland. This model proposes three levels of ICT development in (1) informational (2) transactional and (3) relational, as detailed in the literature review. Later research evolved a model which found four stages of e-Commerce innovation in small businesses of varying context and industry (Daniel, Wilson and Myers, 2002). These stages are also discussed in the Literature Review.

From the research conducted in this study, Goldfields regional tourism businesses are largely at the final stage identified in both these models. They have developed the relational stage of Ditto and Pille, where a continuous customer Internet relationship has evolved and many are advanced adopters identified by Daniel et al. with on-line ordering and booking in operation though with online payment capabilities less widespread.
However, both the technology and the research into adoption have evolved rapidly. A more recent model for understanding the stages of development with ICT in small to medium businesses gives a better perspective on ICT development. The third model discussed and detailed in Chapter 2, is a road map provided for ICT improvements through “a strategic approach to information technology spending and planned investments” (Demopoulos et al, 2008) whose work focuses on concrete practices, processes, and recommendations to drive the return on investment of a business ICT via key areas for improvement.

Using performance metrics and spending on ICT, they have constructed a four level progression detailed in the literature review. In relation to their four stage model comments on the Goldfields region are noted below.

**Level 1: ITC Infrastructure & Mandatory Compliance**
In relation to the findings in this thesis, almost all businesses have achieved this stage of development with almost all respondents having websites at various stages of application development and many outsourcing ICT needs.

**Level 2: Process and Transaction Optimization**
Again, many businesses from the two samples taken – interview and survey – have automated various processes and attended to developing customer transactions in booking and ordering facilities and to some extent online payment. However supply chain and supplier relations are underdeveloped at present.

**Level 3: Information Optimization**
This level is substantially underdeveloped among respondents with limited use of various software for decision making, knowledge management, enterprise document handling, customer relationship management (CRM), enterprise resource planning. The tracking of metrics with business intelligence, scorecards, dashboards and portals and data warehousing overall were very limited.

**Level 4: Business Transformation – strategic & drives innovation**
Few, if any of the businesses in this study, could be said to have reached this stage of development. A strategic approach was very limited with most developing
incrementally and driven by external pressures. There was considerable caution regarding further investments with three quarters of the survey respondents expecting their ICT budget to stay the same or decrease in the year ahead.

Therefore, in the four levels ICT investment roadmap proposed by Demopoulos et al (2008), it may be concluded participants in this research would be located at level 2, process and transaction optimization. At this level, ICT investments have sought to reduce expenses by automating key business processes and streamlining customer relations. This model demonstrates the wider impact of ICT in the Goldfields region and draws attention to the development needing to be undertaken.

5.7 Research Question 7
To what extent are the perceptions of tourism business operators of the current global economic crisis impacting, with regard to past and future implications and planning issues.

While not directly related to ICT implementation, development and impact, this series of questions on the global economic crisis (GEC) was designed to give a broader, relevant and timely understanding to attitudes and intentions regarding probable spending on ICT. As previously noted, the author prefers the term global economic crisis (GEC) to global financial crisis (GFC) as it more accurately reflects the authors view as well as the reality.

There were four questions involved with variation in the views of interviewees, depending on the nature of the business (see Chap. 4, Section 5 - ICT Impacts Drivers & Inhibitors). The financial impact of the global economic crisis in the past year appears to be more a possible cause rather than having been clearly determined. Four interviewees did not expect any impact from the global economic crisis to continue for the twelve months ahead, seven interviewees had developed, to varying extents, business strategies to lessen any negative impacts and several anticipate the impact to last for more than twelve months.

Among the survey respondents, (33%) believed it had impacted on their business, (68%) were neutral or believed there had been no impact, while for the next twelve months (38%) believed it would impact on their business and (63%) were neutral or
expected no impact. While (43%) had prepared strategies to counter any future impact of the GEC, (58%) were neutral or had not prepared strategies. Interestingly for its impact on business spending, (50%) of respondents believed the GEC would last longer that twelve months, eleven (28%) believed it would not and nine were neutral on this topic.

This question has provided a better understanding of Goldfields regional tourism business attitudes to the current global economic crisis (GEC). While responses vary widely, (as with the wider Victorian business community), they show considerable concern by some. This concern is evidenced by seven of the nine interviewees and seventeen (43%) survey respondents having prepared business strategies to lessen any negative impacts.

5.8 Conclusions about the Research Problem

Despite substantial evidence confirming the critical nature of information and communication technologies (ICT) and their impact on the tourism industry, the application and strategic use of the technology is still very limited across the region.

In addressing the research problem, re-stated above, this thesis has addressed a range of issues: connectivity and networking; ICT skills training and outsourcing; expenditure and investments in ICT; methods and issues of collaboration; marketing, customer relations and supply; website development; various drivers of ICT uptake; level of impacts and factors perceived as inhibiting uptake and further development. In regard to the research problem then, a number of implications and conclusions can now be drawn.

First, with regard to connectivity, it appears that for a few and only for the most remote connectivity provides difficulty. This was not an issue for interviewees or survey respondents as all had e-mail, almost all had websites and access to telephony did not appear to be a problem. However, there was minimal use of multi-media, for example, social media networking tools and of open source software by all respondents. Second, while all businesses were connected to at least one regional
and/or state based tourism networks, few were connected to national, and less to international tourist networks.

Third, with regard to connectivity and of particular concern, is the substantial number of businesses not electronically connected, almost one third of those in the data base developed for this study. The fact that almost a third of regional tourism businesses are disengaged electronically is a major concern for the region. A related issue is that while the interviewees mostly saw e-commerce as critical to their business, only twenty of forty survey respondents perceived e-commerce as a substantial part of their business with many undecided in their commitment. In relation to research question 1, while the essential tools for connectivity are in place and accessible to the large majority of regional tourism businesses, many are not exploiting the technology to its potential.

Fourth, regarding skills training and outsourcing, few businesses had difficulty in engaging staff with the required ICT skill for their business needs. However, very few employed people with ICT expertise. Expenditure on training staff, either externally or internally, was very limited overall with substantial numbers undertaking no ICT training. Fifth, very few rated their internal ICT skills as high with most medium and many low. There appeared very limited knowledge of the provision of ICT and e-commerce training opportunities. Sixth, the outsourcing of ICT services had increased for most interviewees in the past year, but there had been little change for the survey respondents. Few were accessing business to business (B2B) and/or business to consumer (B2C) marketplaces. It can be concluded, with regard to research question 2, many experience difficulties outsourcing to satisfactory expertise, accessing online marketplaces and have limited internal ICT skills and ICT training commitment. This will make further ICT development difficult for many, thus also supporting the research problem.

Seventh, expenditure and investments in ICT differed between interviewees and survey respondents. Most businesses were spending between 5% and 10% of their annual budget on ICT. Interviewees, in general anticipate spending more into the future while survey respondents expected their annual ICT budgets to remain the
same or decrease relative to previous years. Only a few plan an increase in spending. This is of concern and appears to indicate no strategic development of ICT but rather a conservative and ad hoc approach.

Eighth, in regard to collaboration issues, while few used a private intranet, all interviewees used software to track sales, working hours and payroll or gather other metrics. There was limited use of other software, as described above. Use of various software applications by survey respondents was very limited with less than twenty percent using tracking software. The capacity to send and/or receive invoices electronically was used by all interviewees and two-thirds of survey respondents. Limited use of various tracking software and collection of metrics, together with many businesses without the capability for electronic invoices exchange, again highlights the research problem.

Ninth, the most advanced and sophisticated area of ICT development was in marketing and customer relations. By contrast, arguably the worst was in supplier relations. Ten percent of orders to suppliers were placed online by most interviewees although half of survey respondents did so. While almost all interviewees were placing orders to regional, national and international suppliers, almost half of the survey respondents were not placing orders electronically. Few of all respondents were ordering internationally. There been any substantial increase in the number of suppliers. As noted above, this area appears underdeveloped with extensive scope for developing supply side functions, again supporting the research problem.

Tenth, all businesses interviewed and almost all survey respondents had their own website and while all interviewees online booking and/or ordering facilities, under half of the survey respondents offered this facility. Customer bookings and orders came from various destinations but mainly from local and regional customers and less so from national and international. Just one website offered translation and money exchange rates. Thus, together with limited involvement in international tourism networks, it appears there is very limited effort being made to attract the potential of the international tourism market.
Eleventh, most interviewees, but less than twenty percent of survey respondents currently use customer relationship management (CRM) software. Most doing so found it helpful or very helpful. In general, use of the CRM application indicates a focus on ICT applications for better customer relations and a level of development and sophistication of businesses processes for this purpose (Martin, 2004). The complexity of adoption and usage will also vary between businesses with some taking incremental steps in developing and others immediately moving to more advanced applications (Tan et al., 2009).

Twelfth, among survey respondents only, it was found almost all had their own domain name; two-thirds had set objectives for their website while photographs, maps and links to other local businesses were used by most respondents. However, while thirty percent used testimonials very few used videos, music and sound or published website offers to customers. The potential for further website development is evident here.

Thirteenth, from all the data collected it is clear that ICT is having a substantial impact across the region while a range of factors are also identified as inhibiting further development. It is also clear that some businesses are being driven by customers, competition and ICT developments.

Below, are discussed various drivers of ICT uptake, the range and level of impacts, followed by various factors perceived as inhibiting uptake and further development. A number of drivers to ICT uptake have been identified as substantial including the role of customers, of competition and of internal factors, for example, the level of internal ICT skills, employment of an ICT practitioner or partnerships and associations. The perceived impacts of ICT as a positive influence on revenue growth, productivity, efficiency of business processes, procurement costs, the quality of products services on customer service and internal work organisation and as an important influence for other business operations and activities, have been extensively discussed above. Very few believed it had no impact, importance or influence, perhaps explained by limited use or knowledge of the technology.
For interviewees, ICT was perceived as having a high or medium impact on various business functions. However, a few individual businesses believed it had low, no impact or was not relevant to a number of functions in their business. In general, ICT was perceived very favourable in most businesses on a range of functional areas. However, a much wider diversity of views on the expected future impact of ICT on business functions for the survey respondents. As concluded above, there is still much development needed for a better understanding of how ICT impacts positively on business operations, thus supporting the research problem.

There was a clear understanding from the interviewees of the importance of ICT to their business development, many believing further spending as crucial while for two spending is based only to keep up with suppliers and customers. One respondent would spend more if ‘someone could demonstrate how best to go about it’. The variety of inhibiting factors for survey respondents are outlined fully above and include costs, complexity, limited value, relevance and the need for demonstration of the technology. More than fifty-five percent did not see ICT as crucial to their business and perceived their business as too small. While important, neither security nor privacy were seen as an impediment for practicing e-Business with unresolved legal issues even less so.

Fourteenth, the application of business adoption models, in particular the ICT investment roadmap (Demopoulos et al., 2008), discussed above, demonstrates the research problem identifying our participants being at relatively early stage of level 2, process and transaction optimization, where ICT investments have sought to reduce expenses by automating key business processes and streamlining customer relations. Importantly, this model confirms the research problem, indicating regional tourism is still considerably underdeveloped in ICT applications.

Finally, with regard to the global economic crisis (GEC), all respondents had experienced little or no adverse effects in the past year nor expected to do so in the year ahead. However, the uncertainties ahead with regards to the GEC have made most interviewees and over forty percent of survey respondents prepare plans to counter any future downturn resulting from the crisis. There is clearly some belief that the GEC may impact.
So what can be concluded from the discussion above in relation to the research problem?

To what extent have Goldfields tourism businesses integrated e-commerce into a business strategy and devised an e-commerce implementation plan? Unhappily, the evidence first detailed then summarised and explained above, appears to point to a Goldfields tourism business community, up to a decade behind the requirements of a twenty-first century tourism enterprise and that, “the application and strategic use of the technology is still very limited across the region”. However, this needs to be contextualised and tempered in the light of the size of many businesses, remoteness of some businesses, income levels, lack of knowledge about the technology, business aims and demographic features such as age cohort.

In summary, many participants are highly aware of and can identify the benefits of ICT, have developed various technologies and processes and are making an on-going commitment to further ICT development. However, many are not. Few appear to have an integrated e-commerce into a business strategy and devised an e-commerce implementation plan.

5.9 Limitations of the Study

Development of the questions to be asked of the interviewees took longer than expected as the European model, on which the questions were based, needed a substantial review to omit irrelevancies and to make it appropriate for a different and local jurisdiction. Indeed, the process of obtaining suggestions and nominations of the more ‘mature’ businesses to be interviewed with regard to ICT from industry consultants and local and regional tourism bodies, noted in Chapter 3, proved more time consuming than expected.

As discussed, the interviews were undertaken on a face to face basis with notes being written as responses, requests for clarification and follow up-questions asked. Several of the interviewees were time poor or subject to workplace interruption. Thus the
opportunities to explore some issues further were hindered. Not as much information was obtained as may have been, for example, had a voice recorder been present. Audio recording and transcription of the interviews would have provided possibility of re-checking accuracy and ability to provide better quotations.

The sample selection method found differing needs for ICT and included businesses at different stages of adoption and implementation. While adding richness to the qualitative part, it makes the quantitative part of the Study less reliable.

Delays were experienced in developing and finalising the survey instrument arising from further feedback received from colleagues and industry, ICT and tourism, consultations and development of an appropriate format for the survey instrument. Some delays in ethics approval also impacted.

The survey was poorly timed reflecting mis-judgements on the part of the author. While it was expected that the survey would be distributed and returned completed by the end of November, 2009, delays were experienced in developing and finalising the survey instrument as described above and development of an appropriate format for the survey instrument. There were several drafts before the document could be placed in the appropriate “form” format for distribution.

As discussed in Chapter 3, through feedback both by e-mail and telephone, a willingness to participate was initially indicated by the large number who indicated that willingness to be involved by not replying “no”. Thus, while there was an early response from many businesses, the early returns were considered insufficient and more time and effort was required to obtain a satisfactory number of respondents. Therefore, several e-mail and telephone contacts, discussed in Chapter 3, were required to achieve a satisfactory number of responses. A website link to respond to the questionnaire would improve potential future response rate.

Thus, the forty completed surveys, being returned throughout December, were indicative of the lack of time as the festive/high season (December to February)
approached for most businesses. Several explicitly stated that they would like to be involved but did not have time at present.

A few responses were critical of the survey format, one making unfavourable comparisons with Survey Monkey (2010), a technology for conducting surveys, and some content of the survey was seen as intrusive by at least one respondent. It is possible respondents among the “NO” responses may have held similar views without stating them explicitly.

Some surveyed SMTEs operators found the process of filling in the survey and returning difficult. For example, surveys were sent back blank by several respondents intending to be positive participants but who had had difficulty in the processes involved in completing, saving, attaching and then returning the survey. This may reflect on the instructions given with the survey or on the ICT capabilities of respondents.

The survey did not provide space for further comments to be made by respondents on any specific issue or in general. This was a poor oversight in its preparation, as it may have provided further insight into the views and attitudes held. This was of particular concern where the word “neutral” was included and chosen by many businesses in their response. Without the capacity for further comment on many issues it was unclear what this meant to respondents. For example, did this show a lack of knowledge, that a particular function was not used, a lack of awareness of business benefits or that respondents could not make up their minds between two extreme propositions?

Finally, because of the numbers of returned failure or undeliverable, implications arise for the Tourist Information Centres who may need to update their data bases on a more regular basis.

On another issue, the limited and selected sample of interviewees together with the limited response to the survey due to the reasons outlined above, provide restrictions on the accuracy and thus implications made here. The findings should be treated as a pilot study needing further research.
5.10 Further Research

Recommendations for further research include seeking explanations for the large number (189) of tourism businesses in the region who, while registered with the various Tourism Information Centres (TICs), are not online and to the extent they are using computers at all in their business. A possible approach may be through the TICs themselves in disseminating learning and information materials within their jurisdictions. Consideration of repeating this study on another Victorian region or regions could be given as could a longitudinal study of the Goldfields to monitor further developments as they progress.

The use of social media networks and their effects is another area in need of further research. The social media are fast becoming a very important business marketing tool and have been adopted by just twenty percent of survey respondents in this study. A more comprehensive survey of the strategies adopted and impacts in this region and other regional areas together with information and presentations could raise awareness and increase application in the tourism industry.

Development of the supply side in accessing tourism business needs is also identified in this study as an area which is underdeveloped, for example, with very limited accessing of BtoB and BtoC networks. The reasons why many businesses do not seek to broaden their options and to cut costs is another area in need of further investigation.

There are a number of other areas identified in this research which could be the focus of further studies. They include better access to ICT expertise and technical support, reasons behind the lack of commitment to ICT training, better knowledge and understanding of software availability, suitability and potential impact, the use and application of business metrics and an extensive study of website development among regional tourism businesses.

Some areas of tourism needing further research in the Goldfields regional include the following:

- Opportunities for understanding business application of social media,
- Involvement in tourism networks, in particular, national and international,
- Raising of internal ICT skills,
- Better communication and delivery from supporting services, ICT experts and consultants,
- Demonstrations of applicable software as identified in the thesis,
- Better understandings of the return on investment in ICT, the business case,
- Procurement and supply issues, accessing B2B and B2C marketplaces,
- Development of website functionality,
- Better understanding of the impact of ICT for small business
- Taking a regional rather than individual business perspective

5.11 Concluding Statement

This study has attempted to address a wide range of issues pertinent to ICT and tourism in the Goldfields region of central Victoria. Its span has meant that many areas of concern have been identified but without the detail needed to foster further strategies in moving the region forward in this area. The thesis has focussed on a broad understanding of the many issues involved in ICT rather than many specifics about particular usage.

With reference to past studies of these issues and to the developmental framework of the ICT investment roadmap, provided by Demopoulos et al. (2008), the research problem, that “the application and strategic use of the technology is still very limited across the region”, has been supported by the findings. If fact, it has been shown that approximately a third of regional tourism businesses are disengaged and many are taking a liaise-faire, ad hoc or an incremental approach to ICT investment and development.

Reflecting on an earlier study of the Central Victorian region, (Electronic Commerce Association of Central Victoria, 2000), few could be characterised as “High Spenders” with an intention to increase IT expenditure as a proportion of total business budget. They also have a stronger overall ability to indicate future purchase
intentions, are acquiring more advanced transactional-based technologies, developing their web-site and obtaining technology advice with specialist software development.

Of all respondents, most appeared to be “Me-Too’s”, spending sufficient on ICT to keep up with their customers and competition yet lacking a planned approach to their ICT development. The third category, “the Unconvinced” are characterised by relatively low levels of IT expenditure, often perceiving ICT as not relevant to their business, maintaining or decreasing ICT expenditure and lacking awareness of the benefits of the technology. To these categories we need to add non-participants, the 189 businesses apparently not electronically connected at all.

As noted earlier, differences were anticipated in the stages of ICT development between the nine iconic, largely long established, regional tourism businesses selected for interview in relation to the respondents to the random responses to an electronic survey delivered across the region. However, through these two methods, a better picture and understanding of the regions tourism industry in the application and impact of ICT has been developed.

### 5.12 Recommendations

Following the analysis of the data collected and in consideration of the conclusions derived, the following recommendations are made.

**Recommendation 1**

One hundred and eighty nine (189) regional SMTE recorded no e-mail address and appeared to not be using the internet or perhaps computers. To highlight the scope and variety of SMTE in the region, these businesses need to be engaged. It is recommended that this cohort be targeted for support through education and demonstration.

**Recommendation 2**

Given the rapid rise of social media networks and their increasing application to all business, especially small business, there needs to be a widespread education program across the region. This may include literature, seminars, workshops disseminated
through existing bodies noted above and educational institutions to address how Twitter, Facebook, Youtube and other social media can distribute the business message and cut marketing costs. Research into social media adoption in the Goldfields region is also recommended.

Recommendation 3
Twenty-six (63%) of survey respondents found ICT too complicated. It is recommended that activities to assist in the creation of better relationships between tourism businesses and ICT vendors and consultants. This may involve support organisations and networks reviewing their roles and strategies to obtain further engagement of SMTE with ICT.

Recommendation 4
Knowledge of ICT and consultant and vendor support is of particular concern for many of the respondents who appear to have either no contact or unsatisfactory contact. It is recommended that ICT service companies need to review their marketing, costs, customer service and post-service provision. It may also involve demonstrations and workshops of suitably applicable business software.

Recommendation 5
ICT educational issues appeared a low priority for survey respondents with thirty-seven (93%) providing no staff ICT training, (80%) not using e-learning and overall there was very limited spending on ICT training. It is recommended that support through subsidised staff training be made available to those involved in tourism industry. This may be achieved through a targeted version of the Training Guarantee Legislation to support the regional development of the industry. (N.B. In 1990, the government introduced the Training Guarantee legislation requiring employers with a set minimum annual national payroll to spend a minimum proportion of their payroll on training. Those who spent less had to pay the shortfall in taxation (ABS 1995).

Recommendation 6
Procurement, value chain and supplier relations appear underdeveloped as there has been no growth or expansion of options in online procurement for most businesses. It is recommended that practical assistance in facilitating the development of
procurement and supply issues, accessing B2B and B2C marketplaces and understanding the impact of the value chain be undertaken.

Recommendation 7
Online booking and payment systems are increasingly considered a basic customer service function but there appears to be far too many who are not meeting this customer requirement. It is recommended that individual businesses review their business need for adopting this facility and consider their target markets and their propensity to use this process for bookings and orders.

Recommendation 8
It appears interviewees and survey respondents from this research may not be making enough effort to attract potential international tourism with just one providing translation and money exchange services. It is recommended that SMTE review the potential of this cohort and the appeal of their products and services.

Recommendation 9
While the benefits of ICT have been widely recognised, many businesses continue to maintain uncertainties. Further education and training are needed and various parties to be determined have a role in assisting tourism businesses to a better understanding of the business case and potential return on investment in ICT.
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APPENDIX 1 Victorias’ Jigsaw Map

Source Tourism Victoria: Victorias’ Jigsaw Map

Source: Tourism Victoria: Victorias’ Jigsaw Logo
APPENDIX 2 - “Goldfields. Leave a Little Richer Brand Campaign – a great family destination”

Source: Bendigo Tourism
“Goldfields. Leave a Little Richer Brand Campaign – a great family destination” (2009)
APPENDIX 3
4 X copies of survey e-mails sent - November –December 2009

E-mail to all available on data base

23 November, 2009

Dear Tourism Business Operator

Re: Electronic Survey of E-commerce in the Goldfields Tourism Region

Your business was identified for this study as a business registered with one of the Goldfield regions twelve Tourism Information Centres and therefore focused on tourists and visitors as part of your customer base. Your participation in the survey will give you an opportunity to audit your own use of Information and Communications Technology (ICT) and perhaps to obtain ideas for the future development of your business.

In addition, we anticipate the survey will contribute to an understanding of where the region is now and how to move forward.

The study aims to find out for the Goldfields Region of Central Victoria:

1. The current level of usage of e-commerce and related applications;
2. The impact of various ICT applications and functions on the business;
3. Business operators views on the current usefulness of the technology to business operations;
4. How business operators see the further development of the technologies in their businesses;
5. The types of technology and services that are most needed to improve business operations.

We intend to model the results of this survey and identify the areas needing further developmental support and provide this information to policy makers, tourism bodies and to the industry.

The questions involved are ordered, as follows:
Section 1 – Business details
Section 2 – Internet connectivity
Section 3 – Skills development and outsourcing
Section 4 – On-line sourcing and procurement
Section 5 – On-line marketing and sales
Section 6 – ICT impacts, drivers and inhibitors

The survey questionnaire is in electronic form and should take 25 to 30 minutes to complete and return by e-mail. In all cases any information provided in the survey response is anonymous and treated with the strictest confidence. Any data published as a result of the survey will be aggregated so that the details of individual businesses cannot be discerned.

Participants are advised that results from the study may appear in publications, be included in a thesis or report, or be presented at conferences. Participants are further advised that the results from the study will be available to them on request. An invitation to hear a presentation on the results of the survey will be offered to all participants at a date to be fixed following the completion of the Study.

Following this e-mail, we will be forwarding a copy of the questionnaire. However, should you not wish to participate, we ask that you opt out by simply returning this e-mail with NO in the subject line. If we do not receive your NO response by 5.00pm on Wednesday 23rd November, we will assume your consent to participation and will therefore forward the survey for completion and return.
If you have any questions about the E-Commerce Tourism Business Survey please contact Michael Beacom at La Trobe University, Bendigo on (03) 5444 7319 or 0414 590 112 or by e-mail m.beacom@latrobe.edu.au

Any complaint regarding the nature or conduct of this research maybe addressed to the Secretary, Faculty Human Ethics Committee, Faculty of Law and Management, La Trobe University, Victoria 3086, telephone – (03) 9479 1603.

We are asking you to be part of this important step in assisting to ensure that the Goldfields Region Tourism Industry is well informed of the needs of businesses in the region in adopting and using these technologies and able therefore to improve the support provided. We welcome your assistance to work with us to move the Goldfields Tourism region towards being the premier destination for visitors, both domestic and international, to regional Victoria. We believe the technology will unfold rapidly in the years ahead and that the demand for tourism information, in particular from an emerging generation, brought up with the Internet as the basic information tool, together with an increasing interest in visiting regional Victoria, will mean that the region that moves to leverage the technology, may have a decisive advantage over other Victorian regions and destinations.

Thanking you in anticipation of your cooperation.

Michael Beacom
Lecturer
Regional School of Business
La Trobe University
Edwards Road, Bendigo, Victoria 3550
Ph. 03-5444-7319; Fax 03-5444-7998; Mob. 0414-590-112
e-mail m.beacom@latrobe.edu.au
www.latrobe.edu.au
2nd December, 2009

Dear Tourism Business Operator

Re: Electronic Survey of E-commerce in the Goldfields Tourism Region

Thank you for your interest in completing the Electronic Survey of E-commerce in the Goldfields Tourism Region.

The survey questionnaire is attached in electronic form and, as advised, should take 25 to 30 minutes to complete and attach to return by e-mail. We would be pleased if you could return as soon as possible but request that you return before 5.00pm on Monday 7th December.

In all cases any information provided in the survey response is anonymous and treated with the strictest confidence. Any data published as a result of the survey will be aggregated so that the details of individual businesses cannot be discerned. Participants are advised that results from the study may appear in publications, be included in a thesis or report, or be presented at conferences. Participants are further advised that the results from the study will be available to them on request. An invitation to hear a presentation on the results of the survey will be offered to all participants at a date to be fixed following the completion of the Study, expected in April 2010.

A glossary is attached to assist you with any jargon or terms encountered. If you have any questions about the E-Commerce Tourism Business Survey please contact Michael Beacom at La Trobe University, Bendigo on (03) 5444 7319 or 0414 590 112 or by e-mail m.beacom@latrobe.edu.au

Any complaint regarding the nature or conduct of this research may be addressed to the Secretary, Faculty Human Ethics Committee, Faculty of Law and Management, La Trobe University, Victoria 3086, telephone – (03) 9479 1603.

Again, thank you in anticipation,

Regards,

Michael Beacom
Lecturer
Regional School of Business
La Trobe University
Edwards Road, Bendigo, Victoria 3550
Ph. 03-5444-7319; Fax 03-5444-7998; Mob. 0414-590-112
e-mail m.beacom@latrobe.edu.au
www.latrobe.edu.au
7th December, 2009

Dear Tourism Business Operator

Re: REMINDER - Electronic Survey of E-commerce

While we have had a satisfactory response to the above, this is a reminder that we are anticipating receiving all completed surveys by 5.00pm today in order to obtain a sufficient cohort to make a valid analysis possible. If you have not yet had an opportunity to return your survey we would be pleased to receive it at your convenience today. An electronic copy for completion and return via e-mail is attached.

Alternately, if you do not wish to participate, would you be kind enough to place “NO” in the Subject line of the e-mail and return.

Thanking you, in anticipation,

Regards,

Michael Beacom.
23rd December, 2009

Dear Tourism Business Operator

Re: Electronic E-Commerce Survey - Extension till 10th January 2010

Thank you for your interest in completing the Electronic Survey of E-commerce in the Goldfields Tourism Region. You are receiving this e-mail because you have expressed an interest in returning the Survey or did not include the survey in your return e-mail or returned the survey uncompleted. We apologise for any business that has responded and received this note in error.

We are aware that this is an especially busy time for everyone and poorly timed on our behalf. However, as we will not commence the analysis of the surveys until 10th January, 2010, we would be pleased to receive your completed survey should you find the time.

The survey questionnaire is attached in electronic form and, as advised, should take 25 to 30 minutes to complete, save and attach to return by e-mail. If you no longer wish to participate please place, “NO” in the Subject Line and return. Thank you.

In all cases any information provided in the survey response is anonymous and treated with the strictest confidence. Any data published as a result of the survey will be aggregated so that the details of individual businesses cannot be discerned. Participants are advised that results from the study may appear in publications, be included in a thesis or report, or be presented at conferences. Participants are further advised that the results from the study will be available to them on request. An invitation to hear a presentation on the results of the survey will be offered to all participants at a date to be fixed following the completion of the Study, expected in April 2010.

A glossary is attached to the Survey to assist you with any jargon or other terms encountered. If you have any questions about the E-Commerce Tourism Business Survey please contact Michael Beacom at La Trobe University, Bendigo on (03) 5444 7319 or 0414 590 112 or by e-mail m.beacom@latrobe.edu.au

Any complaint regarding the nature or conduct of this research maybe addressed to the Secretary, Faculty Human Ethics Committee, Faculty of Law and Management, La Trobe University, Victoria 3086, telephone – (03) 9479 1603.

Again, thank you in anticipation,

Regards and best wishes for the Festive Season and the New Year,

Michael Beacom
Your business was identified for this study as a business registered with one of the Goldfield regions twelve Tourism Information Centres and therefore focused on tourists and visitors as part of your customer base. Your participation in this survey will contribute to an understanding of where the region is now and how to move forward in regard to the adoption of e-commerce and related technologies.

We are asking for your assistance to work with us to move the Goldfields Tourism region towards being the premier destination for visitors, both domestic and international, to regional Victoria. We believe the technology will unfold rapidly in the years ahead and that the demand for tourism information, in particular from an emerging generation, brought up with the Internet as the basic information tool, together with an increasing interest in visiting regional Victoria, will mean that the region that moves to leverage the technology, may have a decisive advantage over other Victorian regions and destinations.

We want to find out for the Goldfields region of Central Victoria:

1. The current level of usage of e-commerce and related applications;
6. The impact of various ICT applications and functions on the business;
7. Business operators views on the current usefulness of the technology to business operations;
8. How business operators see the further development of the technologies in their businesses;
9. The types of technology and services that are most needed to improve business operations.

We intend to model the results of this survey and identify the areas needing further developmental support and provide this information to policy makers, tourism bodies and to the industry.

The survey questionnaire is in soft (electronic) copy and may be completed and returned online. It is designed to gather the information and should take about thirty (30) minutes to complete. When completed it may be returned by e-mail.
The questions involved are ordered, as follows:

Section 1 – Internet Connectivity
Section 2 – Skills Development and Outsourcing
Section 3 – On-line Sourcing and Procurement
Section 4 – On-line Marketing and Sales
Section 5 – ICT Impacts, Drivers and Inhibitors
Section 6 – Business details

In all cases any information provided in the survey response is anonymous and treated with the strictest confidence. Any data published as a result of the survey will be aggregated so that the details of individual businesses cannot be discerned.

Participants are advised that results from the study may appear in publications, be included in a thesis or report, or be presented at conferences. Participants are further advised that the results from the study will be available to them on request. An invitation to hear a presentation on the results of the survey will be offered to all participants at a date to be fixed following the completion of the Study expected in April 2010.

We are asking you to be part of this important step in assisting to ensure that the Goldfields Region Tourism Industry is well informed of the needs of businesses in the region in adopting and using these technologies and able therefore to improve the support provided for them.

Your receipt of this letter and a copy of the survey questionnaire indicate that you have NOT returned our previous e-mail with NO in the subject line, as requested, and therefore have indicated your consent to participation in this Study.

A glossary is available on page 13 of this document to assist with any issues of terminology. If you have any questions about the E-Commerce Tourism Business Survey please do not hesitate to contact Michael Beacom at La Trobe University, Bendigo on (03) 5444 7319 or 0414 590 112 or by e-mail m.beacom@latrobe.edu.au

Any complaint regarding the nature or conduct of this research may be addressed to the Secretary, Faculty Human Ethics Committee, Faculty of Law and Management, La Trobe University, Victoria 3086, telephone – (03) 9479 1603.

Thanking you in anticipation of your cooperation.

Michael Beacom
Lecturer
Regional School of Business
La Trobe University, Bendigo Campus
### SECTION 1 - Internet Connectivity

1. With regard to this issue, does your business have, as below?

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<tr>
<th>1 = No</th>
<th>2 = Not Sure</th>
<th>3 = Yes</th>
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<tbody>
<tr>
<td>a) Broadband connection (ADSL, cable, direct fiber or wireless)</td>
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<tr>
<td>b) Use of Local Area Network (LAN) or Wireless LAN</td>
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<tr>
<td>c) Remote access to business computer network</td>
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<tr>
<td>d) Voice over IP (VOIP) – telephone via the internet e.g. Skype</td>
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<tr>
<td>e) Remote access for employees to your computer system from outside the business?</td>
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</table>

2. Does your business enable information exchange from:

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<th>1 = No</th>
<th>2 = Not Sure</th>
<th>3 = Yes</th>
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<tbody>
<tr>
<td>a) Fixed line connections (land line)</td>
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<tr>
<td>b) Wireless-local-area-networks</td>
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<tr>
<td>c) Mobile communication networks: e.g. mobile phone, SMS</td>
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<tr>
<td>d) MMS (Multimedia Messaging Service) inc. photos, video</td>
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<tr>
<td>e) Tools like Pod and Video casts</td>
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<tr>
<td>f) Networking tools like Facebook, Twitter and YouTube</td>
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<tr>
<td>g) Virtual Private Networks (VPN)</td>
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<tr>
<td>h) Open source software – free non-copyright</td>
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3. Are you connected online or affiliated with any of the following? *(Please indicate all that apply)*

   Industry Association
   Local tourism network
   Regional tourism network
   State based tourism network
   National based tourism network
   International tourism network
SECTION 2 – Skills Development and Outsourcing

4. Does your business currently employ an ICT practitioner?  
   ☐ No ☐ Not Sure ☐ Yes

5. Does your business have difficulty filling vacancies for jobs requiring ICT skills?  
   ☐ No ☐ Not Sure ☐ Yes

6. Is the lack of practitioners or experts a serious concern to your business in any of the following areas? (Please indicate the extent of your concern in the boxes below). Accessing practitioners or experts for the following functions is difficult:

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<tr>
<td>1 = Strongly Disagree</td>
<td>2 = Disagree</td>
<td>3 = Don't Know</td>
<td>4 = Agree</td>
<td>5 = Strongly Agree</td>
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</table>
   a)  | ICT Network architecture | ☐ | ☐ | ☐ | ☐ |
   | b)  | ICT Security | ☐ | ☐ | ☐ | ☐ |
   | c)  | ICT maintenance | ☐ | ☐ | ☐ | ☐ |
   | d)  | Developing new business solutions | ☐ | ☐ | ☐ | ☐ |
   | e)  | External service providers | ☐ | ☐ | ☐ | ☐ |
   | f)  | Developing ICT Strategy | ☐ | ☐ | ☐ | ☐ |

7. Does your Business regularly send employees to ICT Training Programs?  
   ☐ Yes ☐ No (If no, go to question 8)

   If yes:
   a) How often are employees undertaking training?  
      ☐ Monthly ☐ Quarterly ☐ Annually

   b) How much does your business spend annually on Training?  
      ☐ $0 to $500 ☐ $500 to $2000 ☐ $2000 to $5000 ☐ $5000+

8. I am satisfied with the opportunities offered by educational Institutions in my region for training in ICT and e-Business related issues.  
   ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

9. Does your business use e-learning applications, for example, learning materials for employees on:  
   ☐ an Intranet ☐ the Internet ☐ Both ☐ None
10. Over the past twelve (12) months, outsourcing of ICT services has:
   a) Decreased
   b) Remained the same
   c) Increased

11. Does your business enable direct customer booking processes by means of ICT which were previously dealt with by intermediaries such as travel agents?
   □ No □ Yes

12. With reference to Question 11 above, can you estimate the percentage of bookings that is managed directly in this way?
   □ Less than 5% □ 5-10% □ 10-30% □ 30-50% □ 50%+

13. Expenditure and Investments
   
   1 = Less than 5%  2 = 5-10%  3 = 10-30%  4 = 30-50%  5 = 50%+  6 = Not Sure

   a) What was the share of your ICT budget including hardware, software, services and personnel, as a of your total business costs in 2007 – 2008? □ □ □ □ □ □

   b) What percentage of business expenses are currently incurred on Information Technology? □ □ □ □ □ □

   c) In three years time, what percentage of business expenses do you expect to be incurred on Information Technology? □ □ □ □ □ □

14. In the next twelve months will your business ICT budget increase, decrease or stay roughly the same?
   □ Decrease □ Stay roughly the same □ Increase

15. How would you describe the level of Information Technology skills within the business?
   □ Low □ Medium □ High
**Internal and External Collaboration** *(See Glossary pp 13 for unfamiliar terms)*

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<tr>
<th>Question</th>
<th>1 = No</th>
<th>2 = Don't Know</th>
<th>3 = Yes</th>
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<tbody>
<tr>
<td>16. Does your business use an Intranet?</td>
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<tr>
<td>17. Does your business use Knowledge Management (KM) software for managing information in the business?</td>
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<td>18. Does your business use an Enterprise Document Management System (EDM) for managing information in the business?</td>
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<td>19. Does your business use an Enterprise Resource Planning (ERP) system?</td>
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<tr>
<td>20. Does your business use online technologies to track:</td>
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<tr>
<td>a) leads generated</td>
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<td>b) sales</td>
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<tr>
<td>c) new customers</td>
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<tr>
<td>d) Acquisition cost for each customer</td>
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<tr>
<td>e) working hours</td>
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<td>f) payroll and human resource issues</td>
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<tr>
<td>g) other metrics <em>(Please specify)</em></td>
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<tr>
<td>21. Does your business use online applications to manage</td>
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<tr>
<td>a) capacity</td>
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<tr>
<td>b) inventory</td>
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<tr>
<td>22. Is your business sending and/or receiving invoices electronically?</td>
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<tr>
<td>23. Does the business use planning/decision making software?</td>
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<tr>
<td>eg Microsoft Project</td>
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SECTION 3 - Online Sourcing and Procurement

24. Does your business place orders to suppliers online? (Please select one only)
   □ No  □ Don’t know  □ Yes

   If yes:
25. Can you estimate what percentage of your orders to suppliers are placed online?  
   %

26. Does your business supply orders by email?
   □ No  □ Don’t Know  □ Yes

27. Online orders are to regional, national or international suppliers. (Please ✓ each as appropriate)
   □ Regional  □ National  □ International  □ None

28. What effect did the introduction of online ordering and e-sourcing activities have on the selection of suppliers? Have the number of different suppliers increased, decreased or stayed roughly the same?
   □ Decreased  □ Stayed the Same  □ Increased

29. Does your business link your ICT system with that of suppliers?
   □ No  □ Yes
SECTION 4 - Online Marketing and Sales

30. Does your business have a website on the Internet?
   □ No (If no, go to question 35 below, please)
   □ Yes (Please tick all they apply)

If yes, does it have:

a) Your own domain name
b) Objectives for my website
c) Photos
d) Video
e) Music/sound
f) Testimonials
g) Map(s)
h) Links to other local tourism businesses

31. Does your business allow customers to order goods or book services from the website?
   □ Yes  □ No

32. Does your business allow customers to order goods or book services via e-mail?
   □ Yes  □ No

33. What percentage of your total volume of customer orders or bookings is received via website or e-mail?
   □ Less than 5%  □ 5-10%  □ 11-25%  □ 26-50%  □ 50-100%

34. Are online orders or bookings from regional, national or international customers?
   □ Regional  □ National  □ International  (Please ✔ each as appropriate)

35. In dealing with customers and suppliers my business:

   a) supports marketing and/or sales processes by using specific IT solutions
   □ 1  □ 2  □ 3  □ 4  □ 5

   b) uses IT solutions for responding to proposals or tenders
   □ 1  □ 2  □ 3  □ 4  □ 5

   c) uses IT solutions for accessing B2B or B2C marketplaces e.g. Clubhotel
   □ 1  □ 2  □ 3  □ 4  □ 5

   d) uses IT solutions for receiving orders/bookings from customers
   □ 1  □ 2  □ 3  □ 4  □ 5

   e) uses IT solutions for enabling customers to pay online for ordered products or services
   □ 1  □ 2  □ 3  □ 4  □ 5
f) uses a standardised software package or a customised IT solution for sourcing and procurement related processes

☐ ☐ ☐ ☐ ☐

g) is linked to the IT system of suppliers

☐ ☐ ☐ ☐ ☐

h) is linked to the IT system of customers

☐ ☐ ☐ ☐ ☐

The following questions are on Customer Relationship Management (CRM) software, please mark the appropriate box below.

36. Do you use a Customer Relationship Management (CRM) software to organise data about customers electronically?

☐ Yes
☐ No If no, please go to Section 5 – Question 40

37. How would you rate the utility of the CRM system for the effectiveness of marketing activities?

☐ Insignificant ☐ Helpful ☐ Very Helpful

38. How would you rate the utility of the CRM system for the development of products and services?

☐ Insignificant ☐ Helpful ☐ Very Helpful

39. How would you rate the utility of the CRM system for improving customer service?

☐ Insignificant ☐ Helpful ☐ Very Helpful
### SECTION 5 - ICT Impacts, Drivers & Inhibitors

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40. e-Business constitutes a significant part of the way my business operates today.  

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41. e-Business is used for publishing special offers to customers.  

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42. My business decided to engage in e-Business activities because of:  
(Please ✓ each as appropriate)  

- [ ] Competitors  
- [ ] Customers  
- [ ] Suppliers  
- [ ] Government (Tendering)  
- [ ] All  

43. To what extent do you disagree/agree with the following statements as they describe your attitude towards IT costs?  
(Please tick as appropriate for your business)  

(a) I spend very little because it is not relevant to my business  

(b) I spend very little because my business is too small  

(c) I spend very little because e-Business technologies are too expensive  

(d) I spend very little because e-Business technologies are too complicated  

(e) I spend a reasonable amount but I don’t see any value for it  

(f) I spend what I need to keep up with my suppliers and customers  

(g) I would be willing to spend more if someone could demonstrate how best to go about it  

(h) I will be spending more because it is crucial to how my business will develop  

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44. To what extent do you:  

(a) Believe IT security and privacy issues are an important consideration in your e-Business activity?  

(b) Believe that there are important un-resolved legal issues to consider in your e-Business activity?  

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45. Would you say the influence of ICT on the following was positive, negative or had no influence on:

a) Revenue Growth
b) Efficiency of business processes
c) Internal work organisation
d) Procurement costs of supply goods
e) The quality of products and services
f) The quality of customer service
g) The productivity of your business

46. ICT has had an important influence on:

a) Competition in my business sector
b) My business organisational structure
c) Day-to-day tasks and work loads
d) Recruiting staff members
e) Education and training of employees
f) Decisions to outsource

47. Do you expect that ICT will have a high impact, medium impact, low impact or no impact on the following business functions in your business into the future?

a) Management and Controlling
b) Administration and Accounting
c) Research and Development
d) Marketing and Sales
e) Logistics and Inventory
f) Customer support
48. During the past twelve months, to what extent, has ICT been directly related to:

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<th>Disagree</th>
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<th>Agree</th>
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<td>a)</td>
<td>New or improved products or services</td>
<td>☐</td>
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<td>b)</td>
<td>New or improved business processes</td>
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<td>c)</td>
<td>New or improved customer service</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<td>d)</td>
<td>New or improved supplier relations</td>
<td>☐</td>
<td>☐</td>
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<td>☐</td>
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<tr>
<td>e)</td>
<td>Improved productivity</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>f)</td>
<td>Improved access to international markets</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<td>g)</td>
<td>Leveraging cooperation with industry and/or tourism networks</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>h)</td>
<td>Help meet customer expectations (on-line information and services)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<td>☐</td>
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</table>
SECTION 6 - Business Details

49. Name of Business:

50. Contact Person and title:

51. Contact Person’s job title:

52. How many years of business experience?

53. How many years in Tourism Industry?

54. How many years/months in current Business?

55. Male or Female

56. To which age cohort below, do you belong?
   below 25 26-35 36-45 46-55 56-65 65 plus

57. Contact details: Business: 
   Mobile:
   Fax:
   Email:

58. Business address:
   Business suburb and post code:
   Business Postal address:
   Postal suburb and post code:

59. Other location/s of your business, if any:

60. What is the principal Business activity?
   (e.g. accommodation, hospitality, transport, heritage, tour operator, travel agency, etc)

61. Describe the services and/or products sold by your Business?

62. Please ignore the following question if you do not wish to answer
   What is your businesses annual gross turnover or revenue?
   (Please indicate one of the options below)
   below $20K 20-50K 50-100K 100-300K 500K-1M 1M plus
63. What are your three (3) main business goals in the next 12 to 24 months? (e.g. expand customer base, marketing, training, innovative products, ICT development, etc)

a)  

b)  

c)  

**Staffing**

64. How many people does the Business employ?

<table>
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<tr>
<th>Full time</th>
<th>Part-time</th>
<th>Casual</th>
<th>Volunteers</th>
<th>None</th>
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</table>

65. How many employees use computers in your business?

66. What percentage of employees is connected to the internet? %

67. Please read the following statements and indicate by marking one (1) number only indicating the extent of your disagreement/agreement with each statement.

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<th>Disagree 1</th>
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<th>Agree 5</th>
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**Economy**

a) I have experienced a negative impact on my business which I believe has resulted from the economic downturn in the past twelve (12) months.

b) I expect that the economic downturn will have a negative impact on my business in the next twelve (12) months

c) I have developed strategies for my business to counteract any negative results that may result from the economic downturn.

d) I expect the global economic downturn to last more than twelve (12) months.

**Thank you** for your time in responding to this survey.

We believe that the information gathered, following analysis, will benefit your business and be of value to all tourism businesses in the Goldfields region.
<table>
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<tr>
<th><strong>GLOSSARY</strong></th>
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<td><strong>B2B</strong></td>
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<td><strong>B2C</strong></td>
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<tr>
<td><strong>CRM</strong></td>
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<tr>
<td><strong>Decision Making Software (DMS)</strong></td>
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<td><strong>Enterprise Document Management</strong></td>
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<td><strong>Enterprise Resource Planning (ERP)</strong></td>
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<td><strong>Intranet</strong></td>
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<td><strong>e-Marketplace</strong></td>
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<td><strong>ICT</strong></td>
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<td><strong>KNOWLEDGE MANAGEMENT. (KM)</strong></td>
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<td><strong>LAN</strong></td>
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<td><strong>MSS</strong></td>
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<td><strong>Open-source software</strong></td>
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<td><strong>Virtual private network (VPN)</strong></td>
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APPENDIX 5 - E-mail from Brian Sheehan re. publication of Paper in AFBE Journal, December 2010

From: Brian Sheehan [brian.sheehan9@gmail.com]  
Sent: Monday, 6 December 2010 3:49 PM  
To: Michael Beacom  
Subject: re article  
Dear Michael,  
I wish to advise that your revised article with Marthin Nanere has now been published in the December 2010 issue of the AFBE online Journal.  
Kind Regards,  
Brian
THE APPLICATION AND IMPACT OF ICT APPLICATIONS TO SMALL TO MEDIUM TOURISM ENTERPRISES: A STUDY OF THE GOLDFIELDS REGION IN VICTORIA

Michael Beacom
La Trobe University, Bendigo, Australia
Edwards Road, Bendigo, Victoria
Phone: 61-3-5444-7319
Fax: 61-3-5444-7998
m.beacom@latrobe.edu.au

and

Marthin Nanere
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m.nanere@latrobe.edu.au

Abstract

This paper seeks to understand the application, usage and impact of information and communication technologies (ICT) in leveraging e-commerce by small tourism businesses in the Goldfields region of Central Victoria. The region accounts for 13% of tourism related businesses in regional Victoria and in 2005, contributing $A4545 million and 4,301 direct tourism jobs. Specifically, this paper aims to identify issues of connectivity, ICT skill development, customer and supplier electronic interaction, marketing and sales exploitation of ICT and ICT impacts, drivers and inhibitors. In addition, attitudes of respondents to the current global economic crisis were sought. In-depth interviews were undertaken with nine selected businesses based on local industry recommendations and balanced tourism industry sectors from the ANZSIC. An electronic survey was conducted with three hundred and forty-six (346) regional businesses with forty (40) completed surveys returned. Analysis of the survey data indicates that connectivity was widespread (90% using broadband, 83% fixed line telephone and 78% mobiles, as was involvement in local and regional tourism networks, 98% have their own website. However, there was wide concern for security and privacy but not legal issues, limited use of ICT for procurement and poor accessing electronic marketplaces. ICT skills within the businesses were poor as was commitment to ICT training, application of business software and use of metrics. Despite conservative spending, ICT was perceived positively.

Keywords: ICT, e-commerce, tourism enterprises, regional Victoria.
INTRODUCTION

Tourism is fundamental to the world economy both financially and in terms of employment with many rural and regional areas, in developed and under-developed countries, heavily reliant on the industry (Pease, 2007). Increasingly, Information and Communication Technologies (ICT) are no longer an option but mandatory for business and, in particular, tourism businesses. The rapid growth in e-Commerce makes it an imperative for individual businesses as well as regions to leverage the technology if they are to remain competitive. ICT offers the ability to foster improved competitive performance through network, clustering and the formation of alliances as well as providing the richness of content increasingly required by consumers (Braun, 2008a). Beyond buying, the integration of the buying experience, for example, connecting the presentation of physical facilities, delivery processes, finance, etc., as well as a presentation that reaches customer segments in various new media mobiles, for example, iPods, Facebook, is increasingly required (Alvarez and Sugijoto, 2010). Whether ICT can bring business change depends on how people think about and apply it (Serge, 2002).

A well developed tourist industry is characterised by consistency, safety, reliability, efficiency and value for money. In addition, appealing presentations of business products and travel destinations, “sophisticated visualization of tourism products, the consulting role of travel agents, the social interaction and information exchange between travellers, as well as the information richness of the Internet” are key features for successful tourism e-Business (Berger et al., 2006). Improved competitive advantage can be achieved by tourism managers who embrace new information technology and actively participate in the technology planning process to identify new uses and manage their development (Moutinho, 2002).

The internet revolution, rapid internationalisation of business and low cost airline travel, have impacted all business, especially tourism business, witnessing an increase from 682 to 880 million international arrivals between 2000 and 2009. Despite the slow down of 2008/09, international tourist arrivals are expected to grow of between 3% and 4% in 2010 according to UNWTO forecasts despite an economic environment where an estimated 12% drop in global exports has occurred (UNWTOa). For 2010, the UNWTO World Tourism Barometer believes prospects are close to the level of the boom years 2004-2007. Receipts for international tourism totalled US $ 733 billion in 2006 while it is generally understood that domestic tourism (holidaying within ones own country) is 4-5 times greater than international arrivals (UNWTOb).

In Victoria, tourism directly contributes $8.6 billion directly and $7.2 billion indirectly to the states’ economy, in total $15.8 billion, and accounts for 3.2% directly and overall 5.9% of Gross State Product (GSP), flowing through to many businesses beyond tourism enterprises. Its true contribution is measured by the Gross Value Added (GVA) which contributes and additional $6.8 billion making Tourism worth an additional $14 billion in total or 5.8% of total Victorian GVA. Accommodation contributes the largest share (12.5%) to GVA with additional contributions from retail trade,(10.7%) air and water transport, (9.6%), education (9.4%), cafes, restaurants and food outlets (9.3%). For the year 2007 to 2008, the Tourism Industry provided employment for 184,800 people in Victoria (Tourism Victoria, 2007 – 2008).
The Goldfields region of Central Victoria, accounts for 13% of tourism related businesses in regional Victoria and the region has an 11% market share of all domestic visitors to regional Victoria. Of the visitor nights to the Goldfields region 69% were sourced from the intrastate market, 19% from interstate and 12% were from the international market. The tourism sector contributed $545 million to the Goldfields economy and generated 4,301 direct tourism jobs in 2005. While there has recently been some decline, (0.8% since 1999), the Goldfields region received approximately 33,200 international overnight visitors for the year ending December 2008, a decrease of 8.9% from 2007 to 2008. The region has an 11% market share of all international overnight visitors to regional Victoria (Tourism Victoria, 2008).

This paper focuses on small and medium tourism enterprises (SMTE), most of which are micro-businesses, in the Goldfields region of central Victoria and their adoption and usage of information and communication technologies (ICT), and in particular their use of the Internet. Following analysis of the data from both interviews and survey, we intend to identify the stages or level of development among Goldfields region businesses through the impact of ICT applications on the business, both externally and internally. In addition, the paper discusses the SMTE business operator’s views on the usefulness of ICT and how they see further development. In summary then, the paper aims to:

8. Understand levels of connectivity,
9. Identify ICT skill development within businesses,
10. Identify the extent of customer and supplier electronic interaction,
11. Identify marketing and sales exploitation of ICT technology,
12. Understand ICT impacts, drivers and inhibitors, and
13. Identify attitudes to the current global financial crisis

The resulting analysis is expected to provide direction to regional, state and national policy makers, educators as well as the tourism and ICT industries, both regionally and beyond.

Finally, we believe the technology will unfold rapidly in the years ahead. The demand for tourism information, in particular from an emerging generation, brought up with the internet as the basic information tool, together with an increasing interest in visiting regional Victoria, will mean that the region that moves to leverage the technology, may have a decisive advantage over other Victorian regions and other destinations. Following the above introduction, we review relevant literature, discuss our methodology and our findings from the interviews and results from the electronic survey before drawing conclusions.

**LITERATURE REVIEW**

Research into the engagement of small to medium enterprises, including micro-businesses, (SMEs) in the adoption of e-Commerce has been a continuing theme, both nationally and internationally. Since the European, Bangemann Report (1994) identified such engagement it has been seen as critical for an equitable into transition to the Information Age. The adoption of internet-based information and communications technology (ICT) by small and medium enterprises (SMEs) has been extensively researched around the world, (Beal, 2001; Fu et al., 2001; Vidgen et al., 2004; Alam et al., 2005; Kotelnikov, 2007; Balocco et al., 2009). Investments in ICT
in tourism and hospitality have increased greatly in the past decade. (Cline and Warner, 1999; Sigala et al, 2000; Siguaw, 2000; Paraskevas and Buhalis, 2002).

The level of usage of ICT from basic technology - radio, fixed lines telephones and television - to more advanced technology – mobile phones, e-mail, e-commerce, and information processing systems, has been examined and explained. However, ICT tools and complexity required will vary between industry sectors and individual businesses (Kotelnikov, 2007). The complexity of adoption and usage will also vary between businesses with some taking incremental steps in developing and others immediately moving to more advanced applications (Tan et al., 2009). Driven by consumer demand, new forms of technology for business information flows and global access are emerging, for example, short message service, (SMS), voice over internet protocol (VOIP), multimedia messaging service (MMS), pod and video casts, as well as the use of social networking tools like Myspace, Facebook, Youtube and Twitter (McCutcheon, 2009).

In reviewing studies of the factors that determine the level of ICT adoption by small business in general, Fink (1998) identified organisation size and readiness, CEO attitude, innovativeness, knowledge of ICT and internal support, perceived benefits, financial resources, external factors including competitive pressure, consultant and vendor support and user participation.

However, many constraints inhibit SME development including: poor telecommunications infrastructure, limited ICT literacy, inability to integrate ICT into business processes, high costs of some ICT equipment, incomplete government regulations for e-commerce and poor understanding of the dynamics of the knowledge-economy (Khong Sin Tan et al., 2010). Additional constraints include lack of education and technical skills, limited government support, costs, risk, managerial leadership, security and legal issues, business complexity and skilled staff recruiting issues (Kogilah et al., 2008; Hashim, 2007).

Various benefits and barriers to the implementation of ICT applications have been identified by Tan et al. Among the most prevalent benefits of ICT adoption include:

- reduced operating cost in communicating with customers and suppliers;
- increased speed in the delivery of goods by suppliers through better communication;
- enhanced efficiency through better co-ordination of firms in the value chain;
- closer working relationship among trading partners;
- effective communication tool with customers;
- bigger market exposure which opens the enterprise to new business opportunities;
- enhanced access to market information and knowledge by means of improved information exchange with customers and suppliers; and
- as a future tool in terms of facilitating new ways of managing and organizing businesses.

Among the widely cited barriers to ICT adoption, include:
• unsuitability for business as SMEs are not convinced of the financial benefits to be attained;  
• lack of qualified IT personnel to develop and maintain the e-commerce system of the enterprise;  
• unavailability of a proper network infrastructure in the company;  
• high cost of IT equipment and setup;  
• expensive software prices;  
• imbalance between investment costs and return on investment;  
• uncertainty of legal issues surrounding ICT adoption; and  
• fears and concerns over ICT security (Tan et al., 2009).

It is now widely accepted that ICT, “provides many potential benefits to organisations so as to make them more efficient, effective and competitive” (Fink and Disterer, 2006). Applying social actor theory and a case study approach, they found that ICT infusion into the business is low for micro businesses who may look to facilitate interactions with the outside while small enterprises used ICT to supplement personal contact but within organisational boundaries and with little environmental or affiliate links. ICT was more extensively used in medium sized enterprises for both internally and external interactions. They conclude that increased organisational competencies, improved ICT skills along with business skills, are needed to maximise the business benefits. They also believe business needs to take a strategic approach to compete and cooperate and ICT interaction facilitates this with customers, suppliers, alliances and network formation.

There has been extensive research interest in how ICT has impacted on rural tourism businesses (Mitchell and Clark, 1999; Grimes, 2000; Malecki, 2003; Braun, 2005a; Braun, 2005b; Braun, 2007), reducing “the tyranny of distance” (Drabenstott, 2001), providing stable employment and bringing tourist expenditures into the local economy (Buhalis and Main, 1998). Tourism, especially small tourism business, remains central to rural development (Briedenhann and Wickens, 2004).

The exponential growth of Internet users, globally, has critical implications for small to medium sized tourism enterprises (SMTEs), with various benefits for small business including value chain development and partnerships, increased productivity, enhanced efficiency, greater access to information and knowledge, information system capabilities and developing new clients (Kogilah et al, 2008; Hashim, 2007). However, there has also been concern expressed, where rural small to medium sized tourism enterprises SMTEs are not exploiting ICT that a two tier rural economy may result (Mitchell and Clark, 1999).

In researching how ICT influences distance and business efficiency, Irvine and Anderson (2008) adopt ‘supply and demand’ models to explore ICT usage in small Scottish rural hospitality businesses. They focussed on ICT’s relationship to reducing rural isolation by providing information, through Internet sales and marketing and in improving service quality. They concluded that there was “sound evidence” that ICT was “well imbedded” in smaller rural hospitality businesses who overall were, “sensible, informed and often quite sophisticated” in their ICT usage. However, while very attentive to the demand side, they also found, often these businesses were neglecting the supply side functions.
In a globalized economy, innovation, whether technical or organisational, has been viewed as critical to business success in tourism (Stamboulis and Skayannis, 2003; Buhalis, 2003; Matlay and Westhead, 2007). The concept E-innovation, the innovation of ICT and e-commerce, can enhance the performance of accommodation enterprises and assist in gaining competitive advantage, according to Milne et al. (2005). Other studies have focussed on ICT applications for better customer relations (Martin, 2004), a more agile management and image improvement (Camison, 2000) and in supply chain issues (Cagliano et al., 2003). “Electronic commerce (e-commerce) innovating applications have posed novel technical, organizational and commercial challenges” to the stakeholders involved with any business – customers, suppliers and networks – and can have “critical impacts” (Jen-Her Wuand and Tzyh-Lih Hisa, 2004)

Productivity has been another focus for researcher interest (Gretzel and Fesenmaier, 2001; Productivity Commission, Australia, 2001/2; Collins et al., 2003), but investments in ICT alone do not guarantee improved productivity. Critical of the shortcomings of past studies, which were, “plagued with ambiguities and inconsistencies”, Sigala (2003) proposes a new methodology for assessing ICT productivity which was tested in three star U.K. hotels. She found that only the full exploitation of ICT networking and “informalizational capabilities” are likely to bring productivity gains from ICT investments. This is particularly so when ICT is fully integrated into business processes and when informational and transformational capabilities along with an alignment of business strategy and operations are in place.

There has been substantial recent interest in social networking communication tools such as Twitter and Facebook by small businesses. A survey last year by a U.K. mobile-phone operator, o2 Telefonica, found that some 17% of Britain’s small businesses were using Twitter. Many of the firms that responded said they were doing this to attract new customers. Some claimed they had been able to save up to £5,000 (over $US8,000) a year by cutting out other forms of marketing in favour of the networking service (o2 Telefonica). In another survey of 1,000 heavy users of social networks and other digital media (Razorfish, 2009), it was found that 44% of those following brands on Twitter said they did so because of the exclusive deals the firms offered to users. The connections made possible by social networks are helping to create new businesses as well as promote existing ones (The Economist, 2010).

In 2008, a review of existing product marketing and booking channels used by both Queensland tourism operators and visitors was undertaken. The channels most commonly used by consumers to book attractions are at the front gate (49%) and via third party methods such as motoring associations (14%), booking desks (11%), travel agents (7%) and tourist information centres (6%). Prior to booking, personal contact, is important to many visitors to attractions, especially for international visitors and those visiting natural attractions (Tourism Queensland and Tourism Research Australia, QTRA, 2008).

Further, the QTRA review found that many tourism attractions expect to increase their marketing spend on at-destination channels such as street signage, local television, billboards and sponsorship, as well as through cooperative advertising. The internet is seen by attractions as an excellent pre-departure planning tool for customers and
although not expected to overtake bookings at the destination, an opportunity does exists to grow this segment, especially if the booking system is linked to third parties. While most tourism businesses have a website, the review found, “there is a significantly lower number of attraction provider’s websites with direct booking capability (29%) compared with other tourism sectors such as accommodation (90%)” (QTRA, 2008, Tourism Queensland and Tourism Research Australia).

A number of models have been developed to better understand the impact of ICT and e-commerce innovation and customer relations, for example, Ditto and Pille (1998) identified three levels of development (1) informational – a website based on one way provision of information, (2) transactional – enables customer communication through e-mails, telephone or post as well as photographs and “virtual tours”, and (3) relational – where customer interactivity develops a continuous relationship with the internet as a key factor in enterprise management.

Another model of particular interest for the analysis in this study is that proposed by Demopoulos et al. (2008) where they provide a road map for ICT improvements through “a strategic approach to information technology spending and planned investments”. Categorising current performance metrics and spending on ICT, they have adapted a model based on Maslow’s hierarchy of needs (1993) and the work of Nicholas Carr (2004) to apply social science concepts to information technology and the classification of investments, resulting in a four level progression from necessary infrastructure and basic tools to innovative and strategic ICT investments to achieve business transformation.

**METHODODOLOGY**

For this paper, nine interviews were undertaken with small to medium tourist enterprises, (SMTEs) across the Goldfields region in order to obtain a broad understanding of a range of issues including current adoption, usefulness of applications and future intentions in developing ICT in the business. In addition, the respondents were asked to address four questions on the impact of the global economic crisis, as they viewed it, on their business. The interviews were conducted with a selected group following discussions and identification with a number of Goldfields regional tourism organisations.

Following the interviews, and some amendments to the questionnaire, a regional data base, contained six hundred and sixty-six (666) small to medium tourist enterprises (SMTE), including many micro-businesses, was developed and inclusive of all Goldfields regional tourism businesses registered with the twelve Tourism Information Centres (TIC’s) located across the Goldfields region. These are located at Avoca, Ballarat (two centres), Beaufort, Bendigo, Castlemaine, Maryborough, Daylesford, Heathcote, Wedderburn, Maldon and St Arnaud (See Map of the region below). The final number receiving the electronically delivered survey instrument was three hundred and forty-six (346) following the exclusion of one hundred and eighty nine (189) with no e-mail address, sixty-five (65) returning a “NO” to an invitation to participate and sixty-six (66) who were undeliverable or failure notices. There were forty (40) completed surveys returned a slightly more than 10% response. As noted
above, while we are able to report on some results, currently, we are continuing the analysis of the data from the forty electronic surveys returned by respondents.

MAP OF GOLDFIELDS REGION IN CENTRAL VICTORIA, AUSTRALIA

The Survey Instrument and Delivery

The survey instrument was initially developed from a research undertaken by the European e-business W@tch in 2006 (e-business W@tch a) and while keeping the key areas to be addressed was re-adapted to local conditions in language, content and presentation following consultation with regional tourism bodies and industry consultants. The area of interoperability, contained in the European study, was omitted on the advice of various sources that believed it too technical for most SMTE operators and lacked relevance here.

Following expressions of interest, the survey was delivered electronically to three hundred and forty-six (346) of who forty (40) returned the survey, a slightly more than 10% response.

The Interviews
Following consultations with regional tourism bodies and with industry consultants, a selection of tourism businesses was developed and invited by telephone to participate in a one hour face to face interview. A schedule of interviews was prepared and the interviews with nine businesses were conducted over two weeks from the 16th to the 27th November 2009. The selected businesses were representative of a range of industry categories identified by Australian and New Zealand Standard Industrial Classification (ANZSIC). These encompassed one Parks and Gardens Operation, two Heritage Activities, two Scenic and Sightseeing Transport, two Accommodation and Food Services, one Amusement and Other Recreational Activities and one Creative and Performing Arts Activities. In addition, the selected businesses were from various regional locations; four in Bendigo, two in Ballarat, two in Castlemaine and one in Daylesford. Interviews were conducted with business owners or managers but in two cases, with the marketing manager. While limited in number the selected businesses encompassed a variety of locations and tourism business types.

The nine businesses interviewed as part of this Study and their principal business activities are, as follows:

Business A – Holiday Park – camping, caravans and cabins for on-site rental
Business B – Themed night-time walking tours
Business C – Historic icon, luxury boutique accommodation
Business D – Tour operations company - heritage steam train tours, heavily reliant on volunteers
Business E – Chinese Historical and Cultural Museum
Business F – Boutique luxury accommodation, restaurant and functions
Business G – Historic Home and Garden, heavily reliant on volunteers
Business H – Oversees several major tourism businesses
Business I – Performing Arts and function centre in historic building

**Preliminary Comment on the Businesses Interviewed.**

Before discussion of the findings we make four preliminary points. Firstly, while all are operating as a business, five of nine are reliant on volunteers for their operations (D, E, G, H & I). Of these, businesses (D & G) are heavily reliant on volunteers, with few part-time staff and some partly reliant businesses (E, H & I). Secondly, some are reliant on sponsorship and grant monies and therefore had limited finance to invest in ICT, sometimes operating with just basic computer equipment and with volunteers to maintain equipment, for example (D & G).

Thirdly, while it may be assumed larger businesses would be more advanced in their use of ICT’s, at times small businesses were well in advance in their applications. For
example, business (B) with just two full time employees and three casual employees operated as a virtual organisation with no office and interfacing both employees and customers with mobile telephone and a laptop. Fourthly, a number of the businesses interviewed are associated with other organisations that, in some cases, drove their ICT uptake. For example, business (A) is associated with the BIG4 network, who over 30 years, have become a well recognised national brand and network with a reputation for high standards, extensive facilities, a friendly atmosphere and international alliances (Big4 Holiday Parks). Another example is Business (I) whose ICT needs are supplied through the City of Greater Bendigo, the local government authority.

The sections below presents a summary of the overall responses of the nine tourism business operators interviewed in relation to the six sections of the questionnaire. These were:

6. Impact of the Global Economic Crisis (GEC)
7. Internet Connectivity
8. Skills Development and Outsourcing
9. Online Sourcing and Procurement
10. Online Marketing and Sales
11. ICT Impacts Drivers & Inhibitors

FINDINGS AND DISCUSSION FROM INTERVIEWS

The findings and discussion are presented in the order noted above.

Impact of the Global Economic Crisis (GEC)

The sub-prime loan disaster of 2007 and the collapse of Lehman Brothers in late in 2008, in the United States, developed into a global economic crisis. Large European and American financial institutions had substantial difficulties with other financial institutions rapidly losing confidence. As a result, worldwide financial markets ceased functioning with credit worldwide increasingly unavailable (D’Arista and Erturk, 2010). Although some calm has slowly been restored to worldwide financial markets, recovery in the real economy has been weak, a new regulatory regime is yet to be established with differing views between the E.U. and the U.S.A. and, indeed, within members of the European Community (Schneider and Cho, 2010).

The interviews contained five questions related to the global economic crisis, the first dealing with impact on the business from 2007 to 2008, the second on the expected impact in the next twelve months, the third whether the global economic crisis was expected to last more than twelve months and the final question asked if business strategies to lessen any negative impacts had been developed. Respondents were asked to indicate their view on a scale of one to five with 1 for strongly disagree through to 5 for strongly agree.

The results indicated that there was variation in the views of the impact of the global economic crisis from 2007 to 2008, with four of the nine claiming to have experienced a downturn while others not so and one unsure. Respondents were not given any other option for a business down turn and it appears to be more a possible cause rather than having been clearly determined. Those experiencing a downturn
tended to be high-end market businesses, for example, luxury boutique hotels (C & F) and some tourist attractions (D & H) while others, usually iconic tourist destinations, (E & G) had not been effected. One business (A) as a low cost holiday destination had experienced a growth over this period. This may be caused by families bearing higher interest rates on household mortgages, having less discretionary income, a reduction in overseas travel by Australians in favour of domestic holiday travel and a focus on regional iconic tourist activities, for example, businesses (E & G).

For the twelve months ahead, four of nine respondents (A, C, E & H) did not expect any impact from global economic crisis to continue but several anticipate that it will do so with an impact up to the next three years (E, D & H), while one was uncertain (F). Most businesses had developed, to varying extents, business strategies to lessen any negative impacts (B, C, D, F, G, H & I) although two had not (A & E) with one of these believing the global economic crisis to be of little concern. These responses may reflect business attitudes across the Victorian community.

According to the National Australia Bank (NAB, 2010), currently business confidence strengthened again to the surprisingly strong levels of November 2009 and demand growth was of around 5% (annualised) over the last 6 months. The Victorian Employers Chamber of Commerce and Industry, reported in their VECCI-Commonwealth Bank Business Trends and Prospects Survey (VECCI, 2009), that in Victoria an increasing number of business owners believe that the economic crisis either will or has passed and confidence has improved but that business conditions which were mixed over the three months period with some issues, for example, the Reserve Bank of Australia (RBA) expected to raise rates to 4¾% by end 2010, uncertainty over climate change policies and over consumer confidence, remaining uncertain.

In the tourism sector, the most commonly identified factors constraining business growth over the November 2009 quarter were; environmental factors (including bushfire-related issues), wage costs, business taxes and government charges, and the cost and availability of insurance (VTIC, 2009).

**Internet Connectivity**

It is clear that access to broadband Internet and mobile telephony is not an issue for the tourism businesses interviewed (some choosing however not to use mobiles), who, it should be noted, are located in the two major regional cities and in the two major towns in the Goldfields region. This may not be the same result for those businesses which are located in more remote areas of the region.

While all businesses had broadband three did not have wireless connection, either for cost considerations or for security and privacy issues. A majority of businesses did not have remote access from outside the business to the business computer network with just three providing this access for employees. While one respondent did not know if this was provided, another respondent saw it as essential, for example, so that diaries, bookings, rosters, etc could be shared with staff. All businesses interviewed had fixed line access and all except three (D, G & H) had mobile telephone connections, however, most businesses, six of the nine interviewed, did not use MMS, tools like
pod & video casts or Virtual Private Networks (VPN) while one did not know of these technologies and one respondent stated, “they were not yet needed”.

Only two respondents (B & C) used open source software. While open source software is a low cost alternative to proprietary software issues of security, service backup, staff trained on the system, the availability of system administrator tools and the number of version upgrades and patches issued by the developer serve to make most of these businesses avoid its use. However, open source software does have four key advantages: lower cost of ownership, reduced dependence on vendors, easily customised and an improving level of security. Despite these advantages many businesses do not see a great value in adopting open source software (Computer Economics, 2005)

Voice over Internet Protocol (VoIP), for example, Skype, is a relatively new technology that allows your computer's network connection as a telephone service. It is growing in popularity with calls cheaper than the normal phone network, particularly for long distance and international numbers. Of the nine respondents two were using VoIP, two were uncertain and five were not using this technology. Concerns remain over the use of VoIP regarding call quality, overall cost, reliability and other issues, thus, to date there has been a limited uptake. Several of these concerns were expressed by respondents.

Social networking websites are beginning to have an impact on small businesses, perhaps more so than larger businesses, by giving entrepreneurs free access to their audience through services such as Twitter, Youtube and Facebook which can be readily accessed by instant messenger service, the web, as well as with mobile texting, plus other venues. While with Twitter, for example, users are limited to 140 characters in sending out a message, it helps individuals with service and product marketing, with social networking promoting website traffic to specific websites and in staying in touch with people. Perhaps not surprisingly then, many of the businesses interviewed (six of the nine) are currently using social networking tools like Facebook, Youtube and Twitter, some at an experimental stage and others who are already achieving a good response. Of those not using such networks they are exploring the possibilities or are constrained by costs or time (B, D & G).

The main disadvantage for small and medium size tourism enterprises (SMTE), like other SME, is that they tend to be time and resource poor, with their size being their main disadvantage with regard to ICT adoption (Werthner & Klein, 1999). A recent study on the nature of the change process when a regional tourism network seeks to adopt e-commerce, focuses on the nature of the network links. Applying an action-oriented methodology the study suggests a strong relationship between diffusion of e-commerce and network positioning, both in terms of place (status and position in the network) and space (the geographic make-up of the network). It found diffusion hinged on network cohesion and participants trust in and engagement with the network (Braun, 2004). All businesses interviewed were connected to at least one and often more local, regional and state based tourism networks, with one (C) to international tourist networks, through their websites, thus recognising the importance of network engagement.
Skills Development and Outsourcing

The issues of access to expertise in ICT network architecture, security and maintenance had a varied response with two businesses (A & I) having affiliations which addressed these issues for them. Other respondents had varied views with two (B & D) finding such access very difficult, three (C, E & F) finding it difficult, while for others (G & H) it was not a problem engaging such expertise. Fink (1998) identified knowledge of ICT and consultant and vendor support along with user participation as among factors that determine the level of ICT adoption by small business in general. This issue is of particular concern, with five businesses responding negatively to accessing ICT expertise, having implications for ICT service companies, who perhaps need to review their marketing, costs, customer service and post-service provision.

Radio-frequency identification (RFID) is the use of an object (typically referred to as an RFID tag) applied to or incorporated into a product or person for the purpose of identification and tracking using radio waves. The technology can be used for transport, stocktaking and inventory, retail sales and for human identification. Some tags can be read from several meters away and beyond the line of sight of the reader. With regard to Radio Frequency Identification (RFID), one business met these needs through their affiliation with a larger organisation, one had personal expertise in this area, two had difficulty accessing expertise in this area while another did not, and two saw this issue as not applicable while two did not recognise the name of this technology. The wide variation here may be related to differences in the size, nature and needs of the business respondents.

Two businesses (A & I) have affiliations which addressed the issue of developing new business solutions for them, while most others found accessing this expertise difficult or very difficult (B, C, E, F, G & H), with only one (D) believing it was not a problem engaging such expertise. Again, two businesses (A & I) have affiliations which addressed the issue of ICT strategy and management for them while one (B) was able to address their own ICT strategy and management issues. Other respondents (C, D, E, F, G & H) finding such access to expertise in this area very difficult or difficult. Fink and Georg Disterer (2006), believe businesses need to take a strategic approach to compete and cooperate and ICT interaction facilitates this with customers, suppliers, alliance and network formation. Again there are implications for ICT service providers in these results.

Outsourcing considerations depends on the particular circumstances of the business involved and includes considerations of existing contractual arrangements with service providers, how well their current communication needs are being met, their assessment of their future needs, the size of the organisation and, of course, its priorities for the human and financial resources available. Outsourcing of ICT services in the past twelve (12) months had substantially increased for seven of the respondents, remained the same for the other two, (B) having the resources internally and (D) with financial concerns. This indicates a wide willingness to invest and develop ICT applications, though apparently, with extensive dissatisfaction with the expertise and services provided.
Regarding the issue of staff attending ICT e-learning programs, only two (E & I) sent their staff to such programs on a quarterly basis, while four (A, B, F & H) train staff via the Internet and intranet, and two (C & G) do not train staff at all but rely on volunteers or recruit staff with the required skills and leave training to be undertaken by the individual employee at their own cost. We can conclude that most businesses, where possible, understand the importance of keeping up with technology developments and are therefore committed to staff training in this area. This is pleasing as various researchers have concluded that constraints on further ICT development include lack of education and technical skills (Kogilah et al., 2008; Hashim, 2007), limited ICT literacy among employees (Khong Sin Tan et al., 2010) and the lack of qualified ITC personnel to develop and maintain the e-commerce system of the enterprise (Tan et al., 2009).

An online booking system technology will display booking availability in real time on a website and on the selected distributors’ websites, accept payments from customers without requiring human interaction, make your product bookable on a variety of the selected distributors’ websites, update inventory on a website and also on the selected distributors’ websites when a booking is made (The Australian Tourism Data Warehouse). Direct customer booking services were available electronically from all businesses interviewed but while most had the facility on their website, three businesses (D, E, & G), took bookings by e-mail only, two because of limited financial capacity to develop their website and one for security concerns. The respondents appear to have identified some of the most prevalent benefits of ICT adoption which, according to Tan et al. (2009), include reducing operating costs in communicating with customers, being an effective communication tool with customers and facilitating wider market exposure which opens the enterprise to new business opportunities.

While the front gate was found to be the most commonly used by consumers to book attractions at (49%) according to the (Tourism Queensland and Tourism Research Australia, QTRA, 2008), of the respondents to this study, the percentage of bookings undertaken electronically, either via website, mobile phone or e-mail, ranged from less than 5% (A), 20% to 30% (C) with five (D, E, F, H & I) reporting between 5% to 10% taken and one up to 50% (B), via this medium. For all small business, government research found received orders taken via the Internet or web were 23.3% in 2006-2007 and increased to 23.7 in 2007-2008 (ABS, 2007-2008). The respondents to this survey appear to, on average, support the above figures. While the availability of online bookings appear mandatory, factors other than responding to customer demand, appear to drive this service.

Five of the businesses offered online payment methods to their customers (A, B, C, F, & I), with payment facilities available through third parties, (e.g. Travel Click and Tickets.com), or through in the case of (A) their network partner. This may reflect the increasing confidence of customers in online payment methods, according to the St. George Bank, and is reflected in the study by Furnell & Karweni (1999) who found that while consumer regarded security with “some concern”, these “were outweighed by the merits offered by the medium”. In a later study, further developing the Technology Acceptance Model (TAM), which focuses the ease of use and usefulness to consumers, consumer intention to use online shopping was explored which, in addition to ease of use and usefulness, considered compatibility, privacy, security,
normative beliefs and self-efficacy. Collecting data from 281 consumers, the Study found compatibility, usefulness, ease of use, and security to be significant predictors of attitude towards on-line shopping. Privacy, however, was not. Attitude toward on-line shopping, normative beliefs, and self-efficacy were indicators of future intention to use on-line shopping (Vijayasarathy, 2004).

All of the respondents cited ICT spending as a proportion of their overall budget indicating an ongoing commitment to further development but with the majority not intending to expand that percentage of expenditure over the next four years beyond the current 5%. In the 2007-2008 period up to 5% of the business budget for six of the respondents was devoted to ICT while one spent between 5% and 10% and two between 10% and 30%, the later having undertaken major spending on ICT during the period.

Currently, less that 5% of the business budget was devoted to ICT by seven of the respondents while two respondents were spending between 10% and 30%. Of these two, one is a virtual business largely reliant on ICT while for the other it is ‘critical’ to the development of the business. In three (3) years time five respondents anticipated ICT spending to be up to 5% in with further investments, three believed spending to be between 5% and 10% and one to continue past spending at between 10% and 30%, although the actual dollar expenditure for all businesses is expected to increase.

Many tourism operators, despite reductions in cost, regard their operations as too small to afford the necessary equipment, service on-going maintenance and to meet regular upgrading. By contrast, these operators have most to gain from improved efficiency and reach provided by advanced electronic communications technologies (Australian Regional Tourism Handbook, Industry Solutions, 2002).

Within the businesses, the level of ICT skills is described as high by two respondents and medium by five with two respondents describing these skills as low. Those describing their skills as high were a virtual business and major historic boutique hotel (B & C), while the two reporting low skills were a business reliant on part-time and volunteer workers and the other, a major tour operator who do not provide for on-line bookings and or payments (G & H). For most small to medium businesses, employing an ICT professional is neither feasible nor necessary and skills required operating the business thus medium to low. Expanded outsourcing of more highly technical expertise, as above, has been the result. As noted above, Fink (1998) identified knowledge of ICT and support as determining the level of ICT adoption by small business while Khong Sin Tan et al. (2010), believed limited ICT literacy inhibits SME business development. Thus, based on the results found in this study, with only two respondents rating there skills high, there is certainly room for further improvement among most businesses interviewed.

For six of the respondents, further spending is seen as “crucial” in developing their business (A, B, C, G, H & I), while for two (E & F) spending is based on what is required to keep up with suppliers and customers. One respondent (D), although financially constrained, would spend more if “someone could demonstrate how best to go about it”. It appears that these operators understand the importance of ICT to their business development.
Technologies for collaboration, both internal and external, varied substantially between the various respondents. All had software to track sales, working hours and payroll or gather other metrics and used software, other than e-mail, to manage capacity or inventory. Eight of nine respondents could send and/or receive invoices electronically while just two of the business (A & F) uses a private intranet.

Software applications for knowledge management, enterprise document management and enterprise resource planning or decision making software again varied between respondents with three currently using none of these applications (A, D & H), three using knowledge management (B, C & I), four using enterprise document management, three using enterprise resource software (B, C & I) and just one (F) using planning/decision making software.

With all businesses interviewed having a website presence, all having booking facilities online (three by e-mail only) and five of the businesses offering online payment methods to their customers (A, B, C, F, & I) it would appear that these businesses are at the third level of development, based on the Ditto and Pille (1998), model, where customer interactivity develops a continuous relationship with the Internet as a key factor in enterprise management.

However, in the four levels ICT investment roadmap, proposed by Demopoulos et al. (2008), we may generalise to identify our participants being at level 2 - process and transaction optimization. At this level, ICT investments have sought to reduce expenses by automating key business processes and streamlining customer relations but, in our sample, not supply side, which remains relatively static for most respondents, as discussed in the next section.

**Online Sourcing and Procurement**

In regard to procurement and supply issues, online orders as with some other areas of ICT adoption, varied between the businesses interviewed, reflecting a range of tourism business types, the level of financial capability and perhaps awareness of business benefits. Online orders then made up approximately 2% (H), 5% (D & F), 10% (A), 50% (B) and 80% for the two boutique hotels (C & F) of all orders, with one (G) where the ICT system is not used in dealing with suppliers in any capacity. For two businesses (B & E) orders are placed to international suppliers, six (A, C, E, F, H & I) placed orders to national suppliers and seven to regional suppliers. A preference for placing orders to regional suppliers was expressed by a number of the respondents.

Online ordering and e-sourcing activities have stayed the same for most businesses (C, D, E, F, H & I) while procurement activities have increased the number of different suppliers for two businesses (A & B) and, as above, one business (G) is not linked to any suppliers. Only one business (A) is linked directly to an ICT supplier, who is a partner organisation, while no other businesses interviewed are directly linked to a supplier.

The findings above appear to concur with the findings of Irvine & Anderson (2008),
who found in smaller rural hospitality businesses, “sound evidence” that ICT adoption was “well imbedded”, but that while very attentive to the demand side, often businesses were neglecting the supply side functions.

**Online Marketing and Sales**

There was some variation in the extent to which the businesses interviewed received customer bookings via their website although all but three businesses (D, H & G) (the least financial, relying on volunteers, etc), having this application available. However, there was substantial variation in the percentage of orders taken from customers, one stating less than 5% (A), two, between 5% and 10% (F & I), two (C & E) between 11% and 25% with just one (B), a virtual business, between 26% and 50%. While all businesses could take bookings by e-mail, three (D, G & H) could only take bookings by this medium. In comparison, the Sensis e-Business Report (2009a) of Australian small to medium businesses found 56% of all businesses took orders over the Internet and of these just over half (52%) took ten or less percent of their total orders/bookings in this manner. The figures from this research may also reflect the attitudes of customers who may want to speak directly to a person when making a booking.

While these variations indicate different levels of adoption of ICT and of electronic interaction with customers, they indicate that most businesses are exploiting the benefits identified by Tan *et al.* (2009), more effective communication with customers, reduced operating cost, enhanced efficiency, bigger market exposure opening new business opportunities and with improved information exchange with customers, enhanced access to market information and knowledge.

With regard to the origin of customer bookings, seven businesses reported receiving orders mainly local and regional customers, five (B, C, D, E & H), from national customers (two mainly from this source) and just three (C, F & H) from international customers but only one business offered website based translation and real time money exchange rates for international customers who are making transactions. For the year ending December 2009, Tourism Victoria (2010) reported international overnight visitor estimates to regional Victoria had increased by 1.5% to 319,300. Thus, it appears businesses interviewed in this study may not be making enough effort to attract the potential international tourist especially since the Goldfields region did not appear in the top six Victorian regional destinations for this cohort.

All businesses interviewed said their business website supports marketing and sales processes, provides information and visuals to customers and publish website offers to customers, while only four businesses are accessing business to business (B2B) and/or business to consumer (B2C) marketplaces (A, C, E & H). Almost all businesses are not linked to customers (A, B, C, E, F, G, H & I) with only one (D), so linked. This may indicate an immaturity and lack of full exploitation of the potential of using business to business (B2B) and/or business to consumer (B2C) marketplaces and the development of more sophisticated customer relationships.

While seven of the nine businesses interviewed currently use customer relationship management (CRM) software to organise data about customers (B, C, D, E, F, G & I), two do not (A & H), although one of these is currently developing this facility with its
nation-wide partner. Those using CRM were asked to rate its benefits as very helpful, helpful or insignificant. Five businesses (B, C, E, F & I) found CRM “very helpful” with effectiveness for marketing, development of products and services and improving customer service, while two (D & G) agreed CRM was very helpful in marketing effectiveness, e.g. basic mail merges, helpful in improving customer service but insignificant in the development of products and services.

In general, use of the CRM application indicates a focus on ICT applications for better customer relations (Martin, 2004) and a level of development and sophistication of businesses processes for this purpose. The complexity of adoption and usage will also vary between businesses with some taking incremental steps in developing and others immediately moving to more advanced applications (Tan et al., 2009).

ICT Impacts Drivers & Inhibitors

For business (B), e-Business is critical to their operations because as a virtual business it relies substantially on ICT, while business (D) thought ICT very significant of business operations. All other businesses saw e-Business as significant to in business operations (A, C, E, F, G, H, & I). This commitment reflects the “strong increases…”(in) SMEs that have taken up e-commerce in the past year” (Sensis e-Business Report, 2009b).

For four of the respondents (C, E, F & H) ICT adoption was driven by competitors, customers, suppliers and for government tendering purposes and likewise for businesses (A, B & I) except for government or other tendering activities. However, for two businesses (D & G) ICT adoption is driven only by customer demand. It would appear that from our sample, many sections of the tourism business environment are exerting pressure to drive ICT development.

The issue of security remained the major concern for Australian SMEs during the 2000 to 2009 period (49% expressing concern in 2006), while legal issues were not identified as an issue of concern (Sensis e-Business Report, 2009c). Almost all respondents (A, B, C, D, F, G, H & I) believed neither security nor privacy issues are considered an impediment for practicing e-Business with unresolved legal issues viewed likewise. However, legal issues around ICT, nationally and internationally, were viewed as of limited concern and only one business (E) who expressed concerns about security, privacy and legal issues which were considered an impediment for practicing e-Business.

To the question of ICT influence on the business, five of the nine businesses believed it to be a positive influence on revenue growth, efficiency of business processes, procurement costs, the quality of products services on customer service and internal work organisation. However, some businesses believed there was no influence on quality of products services (D, F & G), no influence on procurement costs (D, F, G & H) and finally, no influence on work organisation (A).

All businesses believed ICT to be a positive influence on the productivity of the business. However, none were able to explain why they had this perception. This may be explained by methods of assessing ICT productivity being “plagued with
ambiguities and inconsistencies” (Sigala, 2003) whose study found productivity gains from ICT investments are only likely when full exploitation of ICT through networking and “informalizational capabilities” are aligned with business strategy and operations.

For three respondents, ICT was believed to have a very important influence on competition in the sector (C, D, & H), the business organisational structure (D & H) task and job descriptions (D & I) and for the education and training of employees and the out-sourcing decisions (I). Four others saw it as an important influence on competition in the sector (A, B, E & F) and the business organizational structure (A, B, E, & F), on education and training of employees (B, C, E, & F), on task and job descriptions (C, E, & F) and finally, on out-sourcing of decisions (F). For several businesses interviewed, ICT had less importance for education and training of employees (A & D) and the out-sourcing of decisions (A, B, C & D), task and job descriptions (B) and on business organisation structure (C & I). Other businesses, however, saw no impact from ICT on task and job descriptions (A & H), the education and training of employees and the out-sourcing decisions (D & H). However, one business (G) saw ICT as having no influence on all areas, competition in the sector, the business organisational structure and task and job descriptions, on education and training of employees and the out-sourcing of decisions. Clearly all but one respondent, whose ICT usage is limited, saw ICT as having an important influence, to varying degrees, on their business operations.

With regard to business functions, ICT was perceived as having a high impact on management and controlling (C, E, H & I), on administration and accounting (A, B, C, E, F, H & I), on research and development, (A, B, E, H & I), on marketing & sales (A, B, C, E, F, H & I), on customer support (A, E, F, H & I) and for logistics and inventory (E & H & I). ICT was believed to have a medium impact on management and controlling (F), administration and accounting (D), research and development (C, D & F), customer support (C) and logistics and inventory (C, D, & F).

ICT was also believed to have a low impact on management and controlling (D & A), logistics and inventory (A), customer support (B) and for business (G) it was perceived as having a low impact on management and controlling, administration and accounting, research and development, marketing and sales and customer support nor on logistics and inventory. Others perceived ICT as having no impact on logistics and inventory issues (I) and not relevant to marketing and sales and customer support (D). In the view of respondents the positive impact of ICT was felt on business functional areas to varying degrees across all businesses with just two exceptions, one constrained financially and the other having non-electronic logistics and inventory tracking methods.

As well as facilitating innovation in various functional areas, e-Commerce is itself an innovation usually involving a cluster of separate innovative steps. Daniel, Wilson and Myers (2002) found four stages of e-Commerce innovation in small businesses of varying context and industry. The first cluster are where a business is currently developing their first e-commerce services; the second where the business are using e-mail to communicate with customers, suppliers and employees and at the third information-based are websites operating and are developing on-line ordering
facilities are available. At level four, advanced adopters have on-line ordering in operation and are developing online payment capabilities.

Over the past 12 months, various businesses interviewed believed ICT was **directly related** to a variety of innovative activities: for example, new or improved products or services, (A, B, E, & I), new or improved business processes (A, B, E, H & I), improved productivity (A, B, F, H & I) with leveraging cooperation with industry and tourism networks (A, B, E, & F), helping to meet customer expectations (A, B, D, F, H & I), supplier relations (E, I) and business impact on international markets (E, F & H). Others **strongly agreed**, over the past 12 months ICT had assisted in the development of new or improved products or services (C & G), new or improved business processes (C & F), leveraged cooperation with industry and tourism networks (C & I), helping meet customer expectations through on-line information and services (C & G), facilitating new and/or improved customer service (B, F & G), in improving supplier relations (B & G) and for (B & C) impacting on international markets was uncertain.

**Substantial agreement** was also found that ICT had facilitated new and/or improved customer service and supplier relations (A), new or improved products or services (A, D & F), assisted new or improved business processes (A & D), improved productivity (A, D & E), leveraged cooperation with industry and tourism networks (A, D, G & H), helped meet customer expectations through on-line information and services (A & E), facilitated new and/or improved customer service (D & H) and improved supplier relations (D & H). Finally, in five businesses, ICT was seen to have had little or no impact on new or improved business processes (G) and no impact on productivity (G), on accessing international markets (A, G, D & I) or on new or improved products or services (H).

**PRELIMINARY FINDINGS FROM THE SURVEY**

The electronic survey achieved a satisfactory spread on tourism business activity from across the Goldfields region. Among the respondents, nine were from the major cities, (Bendigo seven and Ballarat two), eleven from towns (Maldon 2, St Arnaud 1, Heathcote 3, Creswick 2, Dunolly 2 and Castlemaine 1), and the remaining half from villages or other rural locations. Two respondents did not provide a location

The forty survey results showed there were twenty-one respondents whom identified their principal business activity as accommodation and/or hospitality. Among these respondents were a range of establishments including motels, backpackers, caravan parks, bed and breakfast operators, short term apartments, lodges, hotels and rural cottage hire. Seven businesses describing themselves as primarily concerned with amusements and other activities. These included an historic theatre, a harness racing club, a major sporting stadium, a major annual agricultural event organiser, a tour operator, a photographer and an Arts and historical museum. There were five wineries that responded, two of which added retail activity as a primary activity.

The questions used for the interviews were modified in preparing the survey instrument but the essential themes remained: Internet Connectivity, Skills Development and Outsourcing, Online Sourcing and Procurement, Online Marketing
and Sales, ICT Impacts Drivers & Inhibitors and the Impact of the Global Economic Crisis (GEC). We are able to report the following findings:

1. Connectivity

- Broadband access was widespread with thirty-six (90%) using broadband, thirty-three (82.5%) with fixed line (landline) telephone connections and a substantial majority, thirty-one (77.5%) were using mobiles for their business. While Voice over Internet Protocol (VoIP) was used by fourteen (36.8%) of the respondents, social networking technology, (Facebook, Twitter, Youtube, etc) was being used by eight (20%)
- While thirty-two (80%) of respondents were involved in a local tourism network and twenty-eight (70%) with a regional tourism network, less than half (45%) connected to a state based tourism network, far fewer respondents were connected to national and international tourism networks, (22.5%) and (10%) respectively.

2. Skills Development and Outsourcing

- While twenty-nine (72.5%) had no difficulty of employing someone with the required ICT skills, it was found just five (12.5%) employed an ICT practitioner, thirty to forty percent had no difficulty finding ICT practitioners and expertise and almost fifty percent “don’t know”.
  - Asked whether the outsourcing of ICT services had decreased, remained the same or increased in the preceding twelve months, for thirty-five (87.5%) there having been no change.
- Educational and training issues appeared to be a low priority to respondents with thirty-seven (92.5%) appear to be undertaking no ICT training of staff and thirty-two (80%) were not using e-learning. In addition, almost forty percent rated their businesses ICT skills as low and just three percent as high.
- As a proportion of annual budget, ICT spending in the past twelve months was modest with (43.6%) spending less than five percent and (33.3%) less than ten percent with (15.4%) spending more than ten percent. Just five respondents (13.2%) planned for an increased ICT budget in the year ahead while the vast majority, while thirty-three, (86.8%) expected their budget to stay the same or anticipated a decrease in ICT spending.

3. Internal and External Collaboration

- With regard to various software applications, over eighty percent were not using an intranet; ninety percent were not using knowledge
management, enterprise document handling and enterprise resource planning software.

There was forty/sixty split between those who did and those who did not use ICT for leads generation and tracking new customers and a fifty-fifty split in sales tracking software. Over seventy percent were not using metrics for acquisition costs for each customer, tracking of working hours, payroll and human resources and eighty-five percent (85%) were not using planning or decision making software.

4. Online Sourcing and Procurement

- Over half of the respondents placed orders to suppliers electronically and of these five businesses (23.8%) were placing a substantial percentage (fifty and eighty percent) of orders online, six (28.5%) with ten (40.7%) placing ten percent or less. A majority, twenty-six (65%) supplied orders by e-mail. In relation to source of supplies, whether regional, national or international, six (15.4%) nominated regional only and three (7.7%) national only, ten (25.6%) dealt with regional and national suppliers and seven (17.5%) who dealt with suppliers from all three locations - regional, national and international. Few respondents, seven (17.5%) had increased the number of different suppliers and they therefore appeared to be using the Internet to source a wider variety of supplier options.

5. Online Marketing and Sales

Thirty-nine (97.5%) of respondents had their own website and thirty-eight (97.4%) had their own domain name. While photographs were very widely used, thirty-eight (97.4%), videos and music, appeared much less so with just one (2.7%) using video clips and three (8.1%) music or other sounds on their website. While three did not respond, fourteen (37.8%) had testimonials on their website, a much larger proportion of businesses had maps, thirty-one (79.5%) and thirty (76.9%) had links to other local businesses. A small number of respondents, three (7.5%), agreed that they were accessing (B2B) and/or (B2C) marketplaces.

6. Impacts, Drivers and Inhibitors

Only half (20) of the respondents perceived e-commerce as a significant part of their business with 17.5% (7) undecided (neutral).

The major reason for adopting e-commerce was the demand of customers and from competition with suppliers and government (tendering) far less important.

Respondents were asked their attitude towards spending on ICT. While slightly over half (52.5%) believed spending was relevant, the remainder were neutral (27.5%) or did not believe spending was relevant to their business as they thought the business too small (45%) and the technologies too expensive (35%) with (35%) neutral on this issue.
Significant numbers of respondents (62.5%) found ICT too complicated or were neutral on this question, while only approximately one-quarter (25.6%) would spend more if they could be shown how best to go about it.

On the question of how crucial ICT was to how their business will develop, (12.8%) strongly agreed and (30.8%) agreed while (30.8%) were neutral and an important approximately one-quarter did not view ICT as crucial.

On the issues of privacy and security, over eighty percent (82.5%) believed it consideration for their e-business activity while only one-quarter approximately (20.5%) believed unresolved legal issues as important to their business.

Respondents saw ICT in their business as very important on competition in the sector (76.9%), work tasks and loads (53.8%), organisational structure (33.3%), decisions to outsource (18%), employee education and training in ICT (15.4%) and on recruiting staff (10.3%).

The influence of ICT was seen as positive influence by respondents on revenue growth (69.2%), on productivity (66.7%), on efficient business processes (61.5%) and on quality of customer service (48.7%) but less so on work organisation (33.3%), quality of products and services (28.2%) and on procurement costs (25.6%).

In the past twelve months, respondents had found ICT directly related to new or improved products or services (41%), business processes (28.2%), customer service (46.2%), access to international markets (30.8%), improved productivity (28.2% with 41% neutral) and improved supplier relations (18%). Over forty percent (43%) agreed that ICT had helped leverage cooperation with industry or tourism networks while (64%) that ICT helped better meet customer expectations.

7. Reactions to the global economic crisis (GEC)

In responding to the impact of the GFC over the past twelve months, thirteen (32.5%) believed it had impacted on their business while nine (22.5%) were neutral and eighteen (45%) believed there had been no impact. Asked if they anticipated an impact in the next twelve months, fifteen (37.5%) believed it would impact on their business, just six (15%) were neutral and nineteen (47.5%) expected no impact.

Respondents were asked if they had prepared strategies to counter any future impact of the GFC with seventeen (42.5%) agreeing that they had done so, fifteen (37.5%) neutral and eight (20%) had not. As to whether the GFC would last longer than twelve months, respondents were split fifty-fifty percent between those who believed it would and those who were neutral or did not expect it would last longer than that period.

CONCLUSIONS
We are able to draw a number of conclusions from the interviews and from the results of the electronic survey. We believe we have met our specific aims and achieved a better understanding of the ICT issues and of the concerns regarding the current global economic crisis. Following the introduction, where the study’s scope and importance are outlined, we have reviewed some of the key literature concerning the issues under consideration. Further, we have outlined the methodology for gathering our data with which we have presented the findings from the nine interviews and the forty electronic survey responses, from which the conclusions below are drawn.

The internet, broadband access and mobile telephony were accessible and exploited to varying degrees by all but four respondents from the survey. While the application of technologies varied among respondents, all but one had websites and most had their own domain name. Awareness and exploitation of social networking technology, (Facebook, Twitter, Youtube), to promote business and interact with customers, was common to all interviewees but to just eight (20%) from the survey. It appears that understanding of the business use of social networking technology is not yet widespread. Most respondents were involved in at least one tourism network – local, regional, state based, national or international - and for several, more than one.

While a majority of all respondents found access to expertise in ICT difficult, there was less difficulty finding employees with ICT skills required by the business though very few actually employed an ICT practitioner. While there was a strong commitment to training and e-learning of staff from our interviews, these issues appeared to be a low priority to most survey respondents who were undertaking no ICT training of staff or using e-learning. Very few of all respondents rated the ICT skills within the businesses as high with the majority as medium and for many low.

All interview respondents, to varying degrees, expressed a commitment to further development of their ICT capability evidenced in their current and intended spending on ICT. While for the survey respondents ICT spending in the past twelve months was modest with just five planning for an increased ICT as a proportion of annual budget in the year ahead, the vast majority expected their budget to stay the same or to decrease. There had been no change in the outsourcing of ICT services for a substantial majority of the survey respondents while reliance on service providers and outsourcing of ICT needs had substantially increased for seven on the nine interview respondents.

The application of business software applications, for example, intranet, knowledge management, enterprise document handling and enterprise resource planning was limited to just a few of all respondents while the use of ICT for leads generation, tracking new customers and sales tracking software was found to be more widely in place. However, most respondents were not using metrics for acquisition costs for each customer, tracking of working hours, payroll and human resources or planning and decision making software.

Over half of the respondents placed orders to suppliers electronically, either by website or e-mail, some up to eighty percent of orders but most placing ten percent or less. Most respondents deal with regional or national suppliers but some internationally.
However, supplier electronic ordering varied widely reflecting differing levels of financial capability and perhaps awareness of business benefits. Essentially however, this area appears underdeveloped as there has been no growth in online procurement for most businesses. Thus, supplier interaction remains relatively limited and there is extensive scope for developing supply side functions.

Almost all respondents had electronic customer booking services, the percentage of bookings approximated on average comparable national figures. This demonstrates a clear commitment to meeting customer demand which is anticipated to continue to increase.

With regard to spending on ICT, for most interview respondents it is crucial in developing their business and to keep up with suppliers and customers, while half of the survey respondents believed spending was relevant, others were neutral or did not believe spending was relevant to their business as they thought the business too small, the technologies too expensive or they needed to have benefits demonstrated. Substantial numbers of survey respondents found ICT too complicated. Few of the respondents were engaged in business to business (B2B) and/or business to consumer (B2C) marketplaces which may indicate an immaturity and lack of full exploitation of the potential offered. Further training and awareness are required. We may anticipate that this area will develop in future.

While there was only limited concern for ICT security and privacy issues by the businesses interviewed who did not see legal issues as inhibiting their e-commerce adoption, thirty-three (82.5%) of survey respondents believed privacy and security an important consideration for their e-business activity while only one-quarter approximately believed unresolved legal issues as important to their business.

Various ICT impacts have been identified by both interviews and the survey respondents as positive including the general impact on revenue growth, efficient business processes, customer service, internal work organisation and productivity but less so for survey respondents on work organisation, quality of products and services and on procurement costs.

In addition, ICT is perceived as an important influence on competition and business organisation as well as having a high impact on a range of management functions, (e.g. work tasks and loads) but less so on organisational structure, decisions to outsource, employee education and training in ICT and on recruiting staff.

In the past twelve months, some respondents found ICT directly related to new or improved products or services, business processes, customer service, access to international markets, improved productivity and improved supplier relations. ICT had also helped leverage cooperation with industry or tourism networks to better meet customer expectations and for some respondents as driving innovation in various business activities both internal and external.

Customers and competition were seen as the main drivers of ICT uptake and development with suppliers and government (tendering) far less important. A substantial minority of survey respondents believed ICT was crucial to how their business will develop while of the interview respondents all believed it was
significant but fewer saw it was crucial to their operations. Many of the survey respondents were neutral on this issue and approximately one-quarter did not view ICT as crucial.

We believe we now have a better understanding of Goldfields regional business attitudes to the current global economic crisis (GEC) which, while varying widely, as with the wider Victorian business community, show considerable concern by some, as evidenced by seven of our nine interview respondents having prepared business strategies to lessen any negative impacts of the GEC. Among the survey respondents, most believed the GEC has had no impact and expected no impact in the following year while seventeen (42.5%) had prepared strategies to counter any future impact of the GEC. As to whether the GFC would last longer than twelve months, respondents were split fifty-fifty percent between those who believed it would and those who were neutral or did not expect it would last longer than that period.

As noted earlier, we anticipated differences in the stages of ICT development between the nine iconic, well developed, regional tourism businesses selected for interview and the respondents to the random electronic survey delivered across the region. However, we believe, through these two methodologies, we have captured a better picture and understanding of the regions tourism industry in its application and impacts of ICT.

In sum, while most interview participants were highly aware of ICT, can identify its benefits and have developed various technologies and processes while making an ongoing commitment to further ICT development, only twenty of forty survey respondents perceived e-commerce as a significant part of their business with many undecided in their commitment. Areas needing further attention by all businesses include procurement and supply issues, accessing B2B and B2C marketplaces, accessing improved delivery of supporting services and consultancies, investigating business application of social networking technologies, consideration of improved metrics and raising the internal ICT skills through a greater commitment to staff training.

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APPENDIX 7 - Map of the Goldfields Region showing cities and key towns
Source: Goldfields Regional Tourism Development Plan 2004-2007, pp 9