

INTERNET USAGE IN SMALL BUSINESSES IN REGIONAL SOUTH AUSTRALIA: SERVICE LEARNING OPPORTUNITIES FOR A LOCAL UNIVERSITY

Nina Evans and Janet Sawyer

University of South Australia

ABSTRACT

The Internet offers opportunities for electronic trading in the global marketplace and as such it can provide substantial benefits to a business. Despite this, the rate of adoption of e-commerce by small and medium-sized enterprises (SMEs) in Australia has been slower than anticipated and these benefits are not being realised (Pease & Rowe, 2003). Research was undertaken by the Centre for Regional Engagement (CRE) within the University of South Australia (UniSA), in collaboration with the Whyalla Economic Development Board (WEDB), to investigate the current Internet and e-commerce usage by small businesses in the Whyalla region. The research focused on the perceived threat of competing with online businesses, the experience of managers and employees in using the Internet, whether the business has a web presence as a means to increase market share and whether they use the Internet to buy, market and sell their products and services. The researchers came to the conclusion that very few of the businesses surveyed used the Internet optimally, if at all. Service learning opportunities, therefore, exist for students of the School of Computer and Information Science (CIS) at a metropolitan based university to assist the regional campus and small retail businesses in Whyalla in establishing a web presence and e-commerce capabilities, suited to their business needs.

INTRODUCTION

In today's turbulent business environment, the use of Information and Communication Technology (ICT) has become a necessity rather than a luxury (Lee & Runge, 2001). ICT can be used as a tool to improve efficiencies and effectiveness in businesses, to improve customer service and even to gain a competitive advantage (Lau, Wong, Chan & Law, 2001; Turban & Aronson, 2001). In order for businesses to survive and prosper, they need information technology and systems (IT/IS) to optimise the flow of information and knowledge within the business and to help management maximise the business' knowledge resources (Laudon & Laudon, 2007).

Along the same lines, the evolution of the Internet as a commercial tool for conducting business has led to an increase in the use of online services. E-commerce has emerged as a whole business strategy, considered to provide substantial benefits to business as it offers a range of services and opportunities for electronic trading in the global marketplace (Pease & Rowe, 2003). According to the Organisation for Economic Co-operation and Development (OECD, 2001) an e-commerce transaction consists of the sale or purchase of goods or services between businesses, households, individuals, governments and other public or private organisations, conducted over

the Internet. The goods and services are ordered over the Internet, but the payment and the ultimate delivery may be connected either online or off line. The benefits of e-commerce in small and medium-sized enterprises (SMEs) would be provided largely by gaining a competitive advantage through improving efficiencies, raising revenue and creating opportunities for new businesses. Increasingly the tools of e-commerce do not just enable electronic transactions to occur, but they also transform internal systems and help build relationships with customers (Laudon & Laudon, 2007; Pease & Rowe, 2003).

Research indicates that the challenges of using technologies are different in small businesses than in larger businesses. Small businesses face substantial risks and problems with their computer-based information systems, when compared to larger firms. They usually have a short range management perspective; they cannot afford to employ internal staff with specialised computer expertise and therefore need to rely on outside resources. They also have a general lack of computer knowledge, financial resources and technical support, as well as inadequate hardware and software (Al-Qirim & Corbitt, 2004; Igbaria, Zinatelli, Cragg & Cavaye, 1997; Lee & Runge, 2001; Levy, Powell & Yetton, 2002). Small business owners are faced with the daunting task of installing, managing and supporting their information technology and systems with limited or no dedicated support staff. The small business owner is, therefore, typically the principal user who also has to perform information technology functions like operations, analysis, programming and contact with vendors, often despite a lack of adequate training in any of these functions. Additionally there is a constant concern about the total cost of ownership (TCO) of ICT equipment due to the continuous evolution of hardware and software (Palvia, 1996). Much research has been done to identify the typical barriers that restrict small and medium enterprises to become advanced users of ICT. Some of these barriers are: a lack of critical mass; a lack of awareness of the advantages gained from using ICT; budgetary problems; and the lack of standardisation of procedures, equipment and software (De Castro, 1999; Pease & Rowe, 2003).

Small businesses in the Whyalla region of South Australia are facing increased competition due to the mining boom in the rest of the state. According to the Whyalla Economic Development Board (Arndt, 2006) many small businesses in the Whyalla region have been losing market share. Despite this, many of these businesses were reluctant to adopt technology that might enhance their operations.

It is important to realise that, although the media give the impression that business will predominantly be conducted online in the future, the diffusion of new technologies can take decades. It involves much more than just reproducing and distributing technology. Blackburn and Athayde (2000) identified communications and searching for information as the most important uses of the Internet by small firms. Making full use of technologies will rely on the IT skills of staff within businesses (Lawson, Alcock, Cooper & Burgess, 2003). In addition, Internet access does not equate to e-commerce practices, although it is the first step.

THE INTERNET AND SMALL BUSINESSES IN REGIONAL SOUTH AUSTRALIA

The importance of small businesses

Smaller firms have been described as the “mainstay of the majority of national economies” (Drew, 2003). Tse and Soufani (2003, p. 306) argue that small businesses might carry even more importance in the new economy:

While the traditional economic structure favours size and physical matters, the new economy is earmarked by relationships, network, and information. It is in this light that it can be seen that small firms would become an ever more important engine in the new economy.

SMEs constitute approximately 95% of commercial organisations in Australia and play a major role in the Australian economy (Australian Bureau of Statistics, 2007). Despite the renewed focus on the small firm, much of the existing research on e-commerce has focused on the larger firm and the development of new business models, to the detriment of understanding smaller firm e-business development (Drew, 2003).

The use of the Internet in Australia

According to the Australian Bureau of Statistics (2007) 37% of businesses with Internet access reported that they place orders for goods and services via the Internet or web during 2005-06, whereas 21% of businesses with Internet access reported that they receive orders via the Internet or web. Given that the placement of orders via the Internet or web generally requires Internet access only, whereas receipt of orders often requires a web presence and additional support within the business, it is considered much easier to place an order than to receive an order. Therefore, the differences highlighted in these levels of usage are to be expected. The propensity of businesses to place orders for goods or services via the Internet or web increased with each successive employment size range – from 33% of businesses with 0-4 persons employed, to double this proportion for businesses with 200 or more persons employed. The number of Australian businesses receiving orders via the Internet increased significantly from 12% in 2004-05 to 21% in 2005-06. The estimated value of Internet income for the year ended 30 June 2006 was \$57 billion. Wholesale trade had the highest proportion of businesses receiving orders via the Internet (39%) with the value of these orders reaching \$14 billion.

Benefits of the Internet and e-commerce

There is a link between the use of technology/Internet and business success. Fillis, Johannson and Wagner (2004a) say that technology heightens the ability of the smaller firm to communicate with customers, suppliers, business partners and competitors. Poon and Swatman (1999) developed a matrix of benefits of smaller firm e-business adoption. Short-term benefits include direct savings in communication costs and generation of revenues as well as indirect benefits such as potential business opportunities and marketing. Long-term direct benefits include the ability to secure returning customers and develop business partnerships, while

long-term indirect benefits include the transformation of the way in which business is carried out and the identification and implementation of new business initiatives.

The adoption of innovation

According to the Innovation Adoption model developed by Rogers (1995) the stages consumers pass through before adopting a new product are represented by the following steps: awareness, interest, evaluation, trial and then adoption. Rogers (1995) postulated that innovation was more likely to succeed if the relative advantage as a consequence of its introduction was evident; was compatible with the organisation, its operations, and view of the world; was not too complex; was able to be trialled; and was able to be observed.

According to the Small Enterprise Telecommunications Centre (SETEL) “simplification” and “demystification” are required to allay fears and remove impediments to the acceptance of e-commerce (Brown, 2002, p. 18). In communicating the virtues of e-commerce, the focus needed to be placed on benefits to the business rather than benefits of technology itself. Four tiers of need were identified by SETEL: (i) Awareness; (ii) Leadership, promotion, education and training; (iii) Implementation and progression; and (iv) Mastery, expansion and innovation. From this perspective communication about e-commerce needs to be “tailored to where the customer sits on the continuum between awareness and adoption”. SETEL’s view is that the focus needs to be at the level of awareness and information provision (tiers (i) and (ii) in their hierarchy) with emphasis on heightening awareness in more specific terms. The findings indicate that there is a need to provide information to raise awareness of the implementation and advantages of e-commerce (Brown, 2002).

Simpson and Docherty (2004) refer to the need of owner/managers of SMEs to have a network of people or a mentor to whom they can turn for advice. Many small business owner/managers often feel isolated and alone. Having access to a small group of mentors as advisers could be useful for bringing external experience into the firm and providing impartial advice and an understanding of the market. It is suggested that the distribution of a lot of paper will not meet the needs of SMEs and face-to-face interaction will be a prerequisite to success.

Barriers to adoption

Although access to the Internet is relatively inexpensive and readily available, smaller enterprises have been slow in using the Internet for electronic commerce. According to SETEL, despite expectations concerning the potential uptake of e-commerce by SMEs, this was not being achieved. In its 2002 report the Centre identified a number of factors limiting this adoption: e-commerce was seen to be a distraction from core business; the significant perceived cost and risks associated with e-commerce; lack of strategic vision; and lack of realisation of the value/benefits of e-commerce to individual SMEs (Brown, 2002).

Ramsey, Ibbotson, Bell, and Gray (2003) investigated the e-opportunities of SMEs in the service sector and found that some of the key impediments to developing e-business include being able to develop a strategic appreciation of the dynamics of the Web, as well as developing appropriate capabilities for managing

the necessary information structures. Fillis, *et al.* (2004a) classify the barriers to the adoption of e-business in small businesses as either 'technical' or 'social'. Technical issues include poor telecommunications infrastructure and security while social issues pertain to the lack of knowledge and awareness, trust, *et cetera*.

Barriers to the acceptance of e-commerce can also be broken down into factors 'internal' and 'external' to SMEs (Pease & Rowe, 2003). The internal factors include lack of awareness and knowledge of e-commerce; lack of skill and time to investigate and implement e-commerce; technology 'phobia' amongst proprietors; cost of implementation and lack of realisation of the benefits associated with the implementation of e-commerce; concerns with security and privacy; poor business management generally, as evidenced by a lack of strategic direction or perspective; and the high failure rate of new SMEs. The external barriers that inhibited the implementation of e-commerce by SMEs were a lack of suitable software standards; lack of easily accessible, independent and inexpensive advice and assistance to SMEs; electronic authentication issues; and bandwidth capacity and infrastructure issues.

Other studies on the reasons for the slow uptake of e-commerce also revealed that the most prominent barriers were lack of awareness of the benefits of e-business; lack of IT expertise of staff and the development of appropriate skills; lack of investment in staff training; poor knowledge of the Internet start-up process; lack of time; lack of business opportunities; concern about security and privacy and the cost of advice and consultants (Blackburn & Athayde, 2000; Lawson *et al.*, 2003; Fillis, Johannson & Wagner, 2004b). Another issue is the often fragmented nature of individual industry sectors and the need for regional SMEs to adopt a coordinated e-commerce effort. This is particularly important in rural and remote regions within Australia (Pease & Rowe, 2003).

In summary, it appears that the slow uptake of e-commerce by SMEs is generally due to a lack of real understanding as to what e-commerce is, what it can do and how it can benefit an organisation, e.g. by way of the transformation of internal business practices. Further, it can be said that there is reluctance by SMEs to change and embrace the possibilities afforded by e-commerce due to myths about the costs associated with the introduction of e-commerce; lack of strategic direction; ignorance and concerns re security; lack of understanding of supply chain issues; lack of realisation of the potential benefits re. efficiencies and revenues; and focus on costs rather than benefits (Pease & Rowe, 2003).

THE AIMS OF THE RESEARCH

The purpose of this research was to investigate the Internet and e-commerce commitment and usage of small business owner/managers in the Whyalla region of South Australia. The research project was based on collaboration between the University of South Australia's Centre for Regional Engagement (CRE) and the School of Computer and Information Systems (CIS) as well as the Whyalla Economic Development Board (WEDB) with the purpose of developing technologically aware small businesses in the Whyalla region. The research aimed to:

1. Investigate the current awareness, capability and commitment to the use of the Internet and e-commerce in these businesses. The research addresses issues such as the experience of managers and employees in using the Internet, whether the business has a web presence as a means to increase market share and expand their operations and whether they use the Internet to buy, market and sell their products and services;
2. Investigate the perceived threat of online competitors;
3. Determine how the awareness, capability and commitment can be increased through active collaboration between the WEDB and the local and metropolitan campuses of the university.

The findings of the research can be used as a basis for developing the awareness in regional South Australia about the possibilities of buying and selling online. It will enable the university to fulfil its regional education role and to assist the WEDB to play an active role in optimising the capabilities and use of the Internet in small businesses in the region. One possible option would be a service learning programme for students from the metropolitan-based School of Computer and Information Science.

THE RESEARCH PROJECT

In order to achieve the purpose of the research, a comprehensive literature review was conducted to gain an understanding of the small business sector in Australia and, more specifically, the Whyalla region in South Australia. After the literature study had been completed, empirical evidence was gathered about Internet usage patterns and the perception of the business value of buying and selling online.

The participants

In small businesses, ownership and management are not separated. Control, therefore, remains in the hands of the owners, which enables them to make choices about the allocation of resources. As the structure of a small business is normally fairly flat and the owner or manager is the main decision-maker, it is reasonable to assume that these people are instrumental in the decision on how to use technology and the Internet in their business. In such a small business the attention given to and acceptance of a specific issue therefore depends on the personal attitudes of the owner/manager (Sweeney, 2007). The owner/managers of businesses operating in Whyalla were therefore chosen as the research participants, to access the potentially strongest influence within the firm.

The sample

The sample was confined, for practical reasons, to small businesses from the retail and services sector. Potential participants were identified from the WEDB database and a written invitation to participate in the research project was sent to them. The initial selection was based on the following criteria: the business must be located in Whyalla; the business must be from the retail and services sector; and the business must employ fewer than 20 employees (Burgess, 2003). However, during the interviews it was found that the employees of two firms numbered 26 and 28

respectively and another firm was predominantly wholesale, but because of their valuable contribution, it was decided to keep these firms in the sample. Nineteen small business owners were included in the final sample. It is acknowledged that the small sample size limits the degree to which the results can be generalised.

The research method

The research contained an element of both a qualitative and quantitative approach. It was conducted by means of a questionnaire and structured face-to-face interviews. The questionnaire titled "*Use of the Internet in Small Businesses in Whyalla*" was given to small business owner/managers to complete. The questionnaire contained a range of questions about the use of information technology, networking and electronic communication functions. The following definitions of terms were identified and used in the questionnaire:

- *A basic business website* on the Internet is used for marketing a business to clients (information only)
- *On an interactive web site* clients can interact with a business: e.g. by completing order forms and feedback forms, or by participating in chat rooms and bulletin boards
- *A complete e-commerce site* means that customers can pay online for products or services

The questions were piloted on owner/managers of two small businesses in Whyalla that were not included in the main study. They were also given to an academic with a request to review the content and format and comment on clarity, comprehensiveness and relevance. Changes were made to the questions on the basis of the responses and feedback. Demographic information such as age, years in operation and number of employees was also gathered. The questionnaires were distributed via mail or by hand to the owners or managers of the small businesses. To improve the response rate, all questionnaires were followed up with email and/or fax correspondence. Nineteen questionnaires were completed and returned. After receiving the completed questionnaires, the data were captured and pre-processed using Microsoft Excel.

Face-to-face interviews were also used in the research, as they provide "rich and comprehensive data, thus providing valuable insights and understanding" (Sweeney, 2007). The interviews allowed a contextualised discussion of how small businesses in Whyalla are run with an emphasis on the use of the Internet. During the interviews, the owner/managers could define in their own terms the challenges and opportunities in their business, as well as elaborate on the use of the Internet in their business. The researchers had the opportunity to probe and expand the participant responses. The questions asked were central to Internet usage and broadly consisted of the following focus areas:

1. Demographics and background.
2. The use of the Internet in the business.
3. Threats from other online businesses and the opportunities of having an online presence.
4. Follow up support required from the University and the WEDB.

During the interviews notes were taken and the interviews were audio-recorded for backup purposes. This allowed the researchers to participate in the discussions rather than taking notes all the time. The interviews were transcribed and the data were collated and reviewed to ensure internal validity.

RESULTS

Interview

The majority of the small business owner/managers who were interviewed were aged over 45 years (79%) and had been operating their business for over 20 years (37%). Most of the businesses employed between one and five people (63%). Table 1 provides a profile of the participants, indicating their age, years in operation, and number of employees (excluding themselves as owners).

Table 1: Profile of Small Retail and Service Businesses interviewed

Variable	Category	N	%
Age	< 30 years	1	5
	31 - 45 years	3	16
	> 45 years	15	79
Years in Operation	1 - 5 years	6	31
	10 - 20 years	6	31
	> 20 years	7	37
Employees	0	2	10
	1 - 5	12	63
	6 - 10	3	16
	> 20	2	10

The older age of the owner/managers and the extended length of time they had been operating their business is noteworthy as these may be factors contributing to the 'technology phobia' and other barriers that were identified by Pease and Rowe (2003) as limiting the adoption of e-commerce practices.

During the interview the owner/managers were specifically asked whether they buy and sell online via the Internet as part of overcoming the challenges and risks involved in running their businesses, and whether they had considered adding this capability to their business. It was found that 24% of the owner/managers used the Internet to both buy and sell their products, 35% used the Internet to buy only,

6% to sell only, and 35% did not buy or sell via the Internet, with 35% planning to establish a website for their business. The owner/managers were also asked whether they regarded the online sales of other Internet-enabled businesses as a threat to the sustainability of their business. Their responses were as follows:

Businesses with an Internet presence

The businesses with an online presence mostly buy and advertise online. Only one business sold its products online. One owner considered that fraud in relation to credit card use was too big a risk to selling online. However, several businesses were currently creating an online presence with the aim of selling online. Some of the businesses have had a website in the past, but not maintained it due to the cost and time involved in keeping it updated. Some of the comments received were:

We buy on line but we don't sell online. As far as selling online there's a link there for an email and then people will drop us an email and then we ring and then we'll email back or contact them. We mostly use it to have a presence and create a bit of marketing and awareness.

I do most of my hardware shopping on line ... there's a lot of equipment out there that we would only see, think about or consider if a specific requirement came up here. Then you go online and see what's available, check out the prices around the place, get feedback on different brands.

Another business was using an open source system that is available to anyone and seemed to work quite well:

A lot of our wholesalers have websites with shopping carts so we can go through and see what they've got in stock at the time and order direct from the website and then we've got a shopping cart system set up for the store here so people from out of town can order from us.

A manager, who does not trade via the Internet very often, mentioned that she is expanding the product range and refers more and more customers to the website, "as the details of the new product is on the website". The manager of the business that sold its products online commented on how difficult it was to make a satisfactory profit from those sales:

We mainly sell, not buy online. Yes, we have a comprehensive website, although I will admit sales are slow through that medium. The other thing that I've found through e-commerce is the people that shop on the Internet are very price conscious so it's very hard to make a profit from those sales.

Another business manager mentioned that their customers have to contact them to buy something they've seen on the web site. Although this business has considered the option, their customers cannot currently buy online. However, all their dealings with suppliers were conducted online. Even so, the manager added that "It's still sometimes better to personally talk to the reps from the companies".

Businesses with no Internet presence

The majority of businesses did not have a web presence, either because their products were not suited to selling online, or due to a lack of time and/or knowledge. Some of the responses were:

That's not the core area of what the business is and again it's a time thing which I've got none of.

Actually I don't buy online but I go and look at stock from my suppliers online.

The previous comment was from a business that plans to sell online in the future. The business already has a domain, but due to the business moving, "it's just not up and running yet". This owner added:

Because it's Whyalla 40 or 50% of the people are older. I don't know if a lot of them use the Internet. It's not like a modern young town that it will be in the future, as soon as you get the influx of all the workers and the new generations come in.

Only three respondents (16%) believed the online sales of other Internet-enabled businesses were a threat to the sustainability of their business. One talked about overseas sites, saying "it's cheaper to buy a lot of the product from America than in Australia". However, a large proportion of the business owner/managers considered that the type of product they dealt with and the face-to-face service they were able to provide resulted in competition from online trading being no threat to their survival. Many emphasised the need for personalised service in relation to their product, because they operated in a "touch it, feel it, sort of industry". Some typical comments received were:

Not an overall threat to survival because of the way we're structured. Only a threat in relation to consumables and things that people don't really need to worry about. For the main products, they will come in to test and try.

The biggest thing the Internet doesn't offer that we can offer, is after sales service and customer service at point of sale to make sure that it's right, and when you pay for it, you're getting the right thing.

Questionnaire

Nineteen questionnaires were completed and returned. The first question asked the owner/manager whether access to the Internet was available in their business. Seventeen businesses (89%) answered that they did have access. A follow-on question enquired about the type of access. Sixteen (84%) used broadband/high speed access (ADSL), as distinct from standard dial-up or via satellite.

Next, the owner/manager was asked to indicate what Internet services they currently use. The results are shown in the Table 2. In line with the findings of previous research (Lawson *et al.*, 2003; Blackburn & Athayde, 2000), the majority of Internet use is for e-mail and searching for information about the products or services of other online businesses. This was followed by using the services offered

by other online businesses such as banks, and using the Internet to source and pay for products from other businesses.

Table 2: Use of Internet Services

Item	N	Current use (%)
Email	16	84.2
Finding information about products/services of other online businesses/suppliers on the Internet	15	78.9
Using and paying for the <i>services</i> offered by other online businesses (e.g. banks, stockbrokers, airlines)	13	68.4
Buying (sourcing and paying for) <i>products</i> through the Internet (e.g. from online suppliers)	12	63.1
A basic website for your business on the Internet (for marketing your business to clients)	9	47.4
An interactive web site where clients can interact with your business by completing order forms, feedback forms, chat rooms and bulletin boards	3	15.8
A complete e-commerce site where customers can pay online for your products or services	2	10.5

This question allowed owner/managers to 'specify any other' internet services they used, providing one further response that indicated the Internet was being used to link to community web pages.

The owner/managers were also asked to indicate their personal level of experience with using computers in their business, as well as the experience of the majority of their employees. It can be seen from Table 3 that the item indicating an ability to send and receive e-mails and access and browse the Internet received the highest proportion of responses. It is interesting to note that the owner/managers had far greater experience with using the Internet than their employees. It is also noteworthy that their ability to create a web page and knowledge of how to set up an e-commerce site was very limited.

Table 3: Experience with Using Computers

Experience	N*	Owner/ Manager (%)	N	Employees (%)
Very limited Internet experience	4	21.1	1	5.3
Internet literate (e.g. send and receive emails, access/browse the Internet)	18	94.7	9	47.4
Extensive Internet experience (e.g. create a web page, set up an e-commerce site)	1	5.3	1	5.3

*N indicates the number of times the item was identified

This question also invited respondents to add 'any comments'. The following comments were received, indicating a need for the provision of training in this area.

Have no idea of use of computer.

There is a need for grass roots education in the business and commercial small business.

The next question required the owner/manager to indicate the extent to which they agreed with a list of statements, using a scale of: 1 - Completely Disagree (CD), 2 - Mostly Disagree (MD), 3 - Mostly Agree (MA), 4 - Completely Agree (CA), 5 - Unsure/Not applicable (NA). The findings are summarised in Table 4. The greatest number of respondents (79%) 'completely agreed' with the statements that a web site would assist in marketing their products or services to additional customers and that customers expect their business to have a web presence. They also 'mostly agreed' that e-commerce would help in the day-to-day running of their business (56%), that e-commerce would increase their profits (53%), that online buying and selling was critical for businesses in rural and regional areas (53%) and that e-commerce will help their business attract new customers (50%). A majority (58%) of the respondents 'mostly disagreed' that buying over the Internet was not secure suggesting that overall a fear of security would not be a barrier for them in using the Internet.

Table 4: Number of Respondents (N) reporting on Use of the Internet

Statement	1 CD	2 MD	3 MA	4 CA	5 NA
Other businesses selling their products online are a threat to the future sustainability of my business.	5	7	5		2
The customers in Whyalla use the Internet to buy online from my competitors	4	3	7	1	4
E-commerce will have a negative impact on employment opportunities in the Whyalla region	5	4	3	2	4
Online buying and selling is especially critical for businesses in rural/regional areas		5	10	3	1
Buying over the Internet is not secure	3	11	3	2	
E-commerce will reduce the social and economic isolation of Whyalla customers	4	5	7	1	1
A web site will help me market my products/services to more customers		1	2	15	1
My customers expect my business to have a web presence	1	3	3	9	3
My business does not need a web site	8	5	2		3
I think a business web site will reduce my advertising costs	3	7	5	2	2
I don't think my specific products/service can be sold online	4	6	4	2	3
E-commerce will help my business attract new customers	2	1	9	4	3
E-commerce will help me in the day-to-day running of my business	1	1	10	3	3
I believe e-commerce will help integrate my systems with business partners (e.g. suppliers)		2	8	6	3
E-commerce will increase my business' profits	2	2	10	2	3
Selling my products/services online (e-commerce) will save costs for my business	2	3	5	4	5
A web site will lead to too many orders for me to deliver	7	3	3		5
I would like to enter into global markets (sell to customers in other countries)	7	2	0	3	7
E-commerce will help reduce my working hours	7	6	3		3

The respondents were also asked to indicate the type of support mechanisms that would help them in their business. As illustrated in Table 5, the findings suggest there is a demand for information in relation to the value and use of e-commerce and for assistance to develop e-commerce capabilities.

Table 5: Number and percentage of Respondents reporting Support Mechanisms

Item	N	%
An information session about the value and use of e-commerce	11	58%
Practical assistance with the creation of a web presence (design and implementation)	11	58%
Assistance to develop and maintain a web presence	11	58%
Assistance to develop and maintain e-commerce capabilities	12	63%

DISCUSSION

The usage of e-commerce

It was interesting that more owner/managers used the Internet to buy and/or sell their products, than those who did not buy or sell via the Internet at all. In line with the opinion of Blackburn and Athayde (2000), it was found that most small businesses use the Internet for communications (email) and searching (getting product information before purchasing). The important aspect to note is that as many as 35% of the owners are planning to establish a website for their business. These owners should be targeted during initial intervention strategies by the university and WEDB, as business owners indicated that they do not have the necessary Internet skills to create a web page or set up an e-commerce site.

It is interesting that only five respondents believe ('mostly agreed') that the online sales of other Internet-enabled businesses were a threat to the sustainability of their business. This low figure is in line with the concerns of the WEDB. The most important reasons for not having a web presence were unsuitable products and a lack of time and/or knowledge. It is noteworthy that most of the respondents mentioned some aspect of time pressure during the interviews. The business owners also clearly believe that face-to-face transactions (referred to as 'personalised service' and 'sales service') lead to increased customer service and customer satisfaction. The comment was made that the customers in the Whyalla marketplace are not likely to be 'connected' and, therefore, able to buy online anyway. Although 89% of the businesses do have Internet access and there is a high Internet literacy among business owners (95%), the employees do not seem to be as Internet literate. Future research will be necessary to determine whether this is a reflection on the Internet usage of the Whyalla community.

Creating awareness and interest

From the results of this research questionnaire, it is clear that most business managers believe that e-commerce will be beneficial for increasing profits and improved marketing and that the security threat would not deter them from creating a web presence for their business. Small businesses are often managed by practical people who want instant answers to their problems, but busy small business owner/managers do not have the time or the inclination to read reports. They, therefore, often need more than a campaign to raise awareness; they need an e-commerce advisory support service.

Many managers indicated that they will need assistance to create a web presence and e-commerce site for their business. The Australian Electronic Business Network (1998) agree that businesses should be assisted to establish a web presence for information exchange and marketing purposes, and to implement e-commerce in the cases where it would enhance the business. Business development officers within the WEDB and university experts with the technical knowledge and skills would be very suitable to play this role.

The challenge, therefore, is to create awareness and interest among small business owners who do not have a web presence and then get them to use and evaluate e-commerce. While almost all the businesses in Whyalla use computers, the majority have Internet connections that they exclusively use for e-mail and only a small number are involved in transaction processing. Although some of the businesses are planning to start doing business online, their knowledge of the potential benefits offered by e-commerce is only superficial. This is where the university and WEDB could play an important role in getting the message across to small businesses in its region.

Support via Service learning

The University of South Australia's positional statement is "Educating professionals, creating and applying knowledge, engaging the community" (UniSA, 2008). The university therefore has an important responsibility to empower people. The University of South Australia and the WEDB can play an important part in the diffusion of information to small businesses in the Whyalla region. While the university could provide knowledge and skills in electronic commerce for businesses through academic staff members, academic theory may be of little practical value to SME owner/managers who generally prefer to rely on their intuition than on formal business strategies. This is where service learning could play an important role.

Service learning is a particular application of practice base learning. More specifically, it is an educational philosophy that promotes active learning by involving students in community service. On the UniSA website (2008), the University includes service learning as part of its Teaching and Learning strategy as the university believes that:

the benefits of an individual's education in civilised societies are not simply those of self-interest, but admit an element of mutuality; a recognition that the societal support of higher education for some carries an expectation that the community as a whole will benefit.

Students learn by doing a project in the community, thereby contributing to meeting the needs of society. Service learning is related to the active/passive learning theory, i.e. the amount students learn is directly proportional to their level of involvement in the learning process, and is linked to a number of active learning strategies, especially collaborative learning and problem-based learning. Assessment of student performance is a crucial part of a service learning programme.

Service learning requires a relationship based on mutuality – the student and the community both benefit. The experience of service learning benefits students in many ways: it builds their resume, builds their self-confidence, provides valuable lessons in citizenship by exposing students to societal issues they might never have encountered before, and it connects students to the community outside the university in a way that benefits all stakeholders (Sanderson & Vollmer, 2000).

The responsibility for implementing service learning lies within the various Schools of the university. The process of assisting small businesses with developing a web presence could, therefore, be driven by the university's metropolitan-based School of Computer and Information Science (CIS). The students' accomplishments could be assessed on a number of activities, e.g. discussing requirements, iterating through different prototypes, setting up the website, training personnel and documentation. As business owners are assisted to seek solutions to their problems and to discover new ways of using the Internet to enhance their business, they take ownership of the initiatives. This research could also assist information technology students to understand customer needs and to recognise potential barriers to the adoption of innovation in this particular region.

CONCLUSIONS

In a small firm most of the decision-making and control is in the hands of the owner/manager. Therefore, the motivation of the owner/manager is a determining factor in the use of e-commerce. One has to understand the motivations of the owner/manager of the smaller firm in order to understand why some firms view technology as an opportunity for business development, while others perceive barriers to embracing such new technologies. It is acknowledged that while some businesses fit well with e-commerce, others sell a product or service that cannot be sold through an online medium. Suitability of the product for sale via e-commerce is, therefore, a prerequisite for success. Some firms simply provide products or services that are unsuitable for selling via the Internet. This does not mean, however, that these services and products cannot be advertised via a web presence.

An important recommendation from this research is to overcome a lack of knowledge by disseminating information and conducting seminars in a format acceptable to the small business owner (i.e. with special focus on small organisations). Demonstrations or simulations of the use of e-commerce in terms of businesses similar to their business may be effective to encourage them to adopt e-commerce.

The University of South Australia is committed to providing its students with not only a strong theoretical education, but also off-campus experience. Service learning could provide a solution for the lack of technical skills in regional areas and experience in communities, other than their own, can provide students with a deeper

understanding of the course content and how to apply it to the real world, while at the same time, making a difference to the probability of success in regional small businesses.

The WEDB can provide a central point for small businesses wishing to become involved in e-commerce. Service learning students can provide practical assistance and the implementation of a web presence. Relationships formed through projects such as the one described in this article, have the potential to be mutually beneficial to all involved.

REFERENCES

- Al-Qirim, N. & Corbitt, B.J. (2004). "Determinants of electronic commerce usage in small businesses in New Zealand." In T. Leino, T. Saarinen & S. Klein (eds.), *Proceedings of the Twelfth European Conference on Information Systems*. Turku, Finland: Turku School of Economics and Business Administration.
- Arndt, S. (2006). *Whyalla Economic Development Board Annual Report 2006*. Whyalla: Whyalla Economic Development Board.
- Australian Bureau of Statistics (2007). *Business Use of Information Technology*. [Online]. Retrieved from, <www.abs.gov.au>.
- Australian Electronic Business Network (1998). *Taking the Plunge – small business attitudes to electronic commerce*. Retrieved 4 October 2007, from <www.aebn.com.au>.
- Blackburn, R. & Athayde, R. (2000). Making the connection: the effectiveness of Internet training in small businesses. *Education & Training*, 42(4/5), 289-299.
- Brown, E. (2002). Accelerating the Uptake of E-commerce by Small and Medium Enterprises. Small Enterprise Telecommunications Centre (SETEL).
- Burgess, S. (2003). *A definition for Small Business?* Information Resources Management Association (IRMA). December. Retrieved 4 October 2007, from <www.businessandlaw.vu.edu.au/sbirit>.
- De Castro, E.A. (1999). Information technology as a source of comparative advantage for SMEs. *Proceedings of the second annual REACTE conference*. Valencia, Spain, 22, 99-106.
- Drew, S. (2003). Strategic uses of e-commerce by SMEs in the east of England. *European Management Journal*, 21(1), 79-88.
- Fillis, I., Johannson, U. & Wagner, B. (2004a). A qualitative investigation of smaller firm e-business development. *Journal of Small Business and Enterprise Development*, 11(3), 349-361.
- Fillis, I., Johannson, U. & Wagner, B. (2004b). Factors impacting on e-business adoption and development in the smaller firm. *International Journal of Entrepreneurial Behaviour & Research*, 10(3), 178-191.
- Igbaria, M., Zinatelli, N., Cragg, P. & Cavaye, A.L.M. (1997). Personal computing acceptance factors in small firms: A structural equation model. *MIS Quarterly*, 21(3), 279-305.
- Laudon, K.C. & Laudon, J.P. (2007). *Management information systems: managing the digital firm*, (10th Edition). New Jersey: Prentice-Hall.
- Lau, T., Wong, Y.H., Chan, K.F. & Law, M. (2001). Information Technology and the work environment – does it change the way people interact at work? *Human Systems Management*, 20(3), 267-279.
- Lawson, R. Alcock, C, Cooper, J. & Burgess, L. (2003). Factors affecting adoption of electronic commerce technologies by SMEs: an Australian study. *Journal of Small Business and Enterprise Development*, 10(3), 265-276.
- Lee, J. & Runge, J. (2001). Adoption of Information Technology in small business: Testing drivers of adoption for entrepreneurs. *Journal of Computer Information Systems*, 42(1), 44-57.
- Levy, M., Powell, P. & Yetton, P. (2002). The Dynamics of SME Information Systems. *Small Business Economics*, 19, 341-354.
- OECD. (2001). *Organisation for Economic Co-operation and Development*. Retrieved 12 August 2008, from <www.oecd.com>.
- Palvia, P.C. (1996). A model and instrument for measuring small business user satisfaction with information technology. *Information & Management*, 31(3), 151-163.
- Pease, W. & Rowe, M. (2003). E-Commerce and Small and Medium Enterprises in Regional Communities. *Proceedings of the Chartered Institute of Marketing Inaugural Conference*, August. Sydney, Australia.
- Poon, S. & Swatman, P.M.C. (1999). An exploratory study of small business Internet commerce issues. *Information and Management*, 35, 9-18.
- Ramsey, E., Ibbotson, P., Bell, J., Gray, B. (2003). E-opportunities of service sector SMEs: an Irish cross-border study. *Journal of Small Business and Enterprise Development*, 10(3), 250-264.
- Rogers, E.M. (1995). *Diffusion of Innovations*. (4th edition). New York: The Free Press.
- Sanderson, P. & Vollmer, K. (2000). *A Primer for Applying Service Learning to Computer Science*. ACM SIGCSE.

- Simpson, M. & Docherty, A.J. (2004). E-commerce adoption support and advice for UK SMEs. *Journal of Small Business and Enterprise Development*, 11(3), 315-328.
- Sweeney, L. (2007). Corporate Social Responsibility in Ireland: barriers and opportunities experienced by SMEs when undertaking CSR. *Corporate Governance*, 7(4), 516-523.
- Tse, T. & Soufani, K. (2003). Business strategies for small firms in the new economy. *Journal of Small Business and Enterprise Development*, 10(3), 306-320.
- Turban, E. & Aronson, J.E. (2001). *Decision support systems and intelligent systems*. (6th edition). New Jersey: Prentice- Hall.
- UniSA. (2008). *University of South Australia*, Adelaide. Retrieved 10 September 2008, from <<http://www.unisa.edu.au>>.

Keywords

E-commerce, internet usage, small business, information technology, service learning

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