IDEA GROUP PUBLISHING

701 E. Chocolate Avenue, Suite 200, Hershey PA 17033-1240, USA
Tel: 717/533-8845; Fax 717/533-8661; URL-http://www.idea-group.com

ITP5007

Micro-Business and Technology Uptake- Why are the Figure Still Low?

Elizabeth Walker
School of Management, Edith Cowan University, Perth, Western Australia, elizabeth.walker@ecu.edu.au

Shirley Bode
Edith Cowan University, School of Management Information Systems, Perth, Western Australia, s.bode@ecu.edu.au

Janice Burn
Edith Cowan University, School of Management Information Systems, Perth, Western Australia, j.burn@ecu.edu.au

ABSTRACT

Technology uptake has become part of everyday reality for most developed countries. Technology uptake has also transformed how businesses operate, with the internet and e-business having become the most common media for many business-to-business exchanges. Large businesses have fully embraced technology, however the figures for smaller businesses still indicate slow uptake. At the smaller end of the market, micro and home-based businesses, technology uptake is less than half. There is still a lot of hype surrounding virtual businesses, yet the question needs to be asked – why are the smaller players still reluctant when it comes to technology uptake?

INTRODUCTION

Technology, in the form of increased sophistication of electronic communication has been posited as extremely advantageous to business. The ability to develop global networks and conduct virtual business has been of advantage to many Australian businesses who have previously been disadvantaged by the tyranny of distance. What is interesting is that whereas it is certainly true that large business has fully embraced technology, the figures for small business are less convincing. Indeed at the very lowest level of enterprise, micro business, the uptake of e-business in this sector is less than half (ABS, 2003; SMERC, 2002). Furthermore there is a significant proportion within these non adopters that also indicate that they have no immediate plans to embrace e-business via the internet (Goode, 2002). This clearly negates any advantage that small businesses might gain from embracing technology and the potential for the leveling of the business playing field.

The question that therefore needs to be asked is why? The initial cost of implementation would be an obvious factor, but given that the Y2K drama did at least ensure that the majority of even the very smallest businesses had some level of rudimentary technology what should have emerged was a business community that was technologically up to date, at least at a very basic level. Y2K should have been the watershed to level the playing field and bring all businesses, including even the very small or micro businesses up to speed. However since 2000 little has been progressed for very small businesses in the way of keeping up to date with current technological trends (NOIE, 2002). Recent Australian Bureau of Statistics results show that whereas most SMEs have a computer and the majority have internet access, only a third of small businesses have a web presence, with an even lower figure of 15% for micro businesses (ABS, 2003). The different size differentials observed are the standard Australian Bureau of Statistics classifications, which are micro business being 0-4 persons, small business being 5-19 persons and medium being 20-200 persons (ABS, 2002)

LITERATURE REVIEW

Small Business in context

The economic importance of small businesses both to the Australian economy (Howard, 1997) and the world economy is well documented (Frank & Landström, 1997; Storey, 1994). This is because of the contribution small business makes both to employment and the revenue it generates. In Australia small business employs 38% (3.2 million) of the total workforce (Australian Bureau of Statistics [ABS], 2002). Micro-businesses, in particular contribute $20,193 million to industry gross product and employ over one third of small business employees (ISR 2000). Given that in Australia as elsewhere there has been a change over time from a manufacturing /primary producing base towards a service orientated base, it is vital that all businesses can compete in an increasing e-enabled world. This is especially true for small businesses as they are often considered the 'feeders' to larger business (Beaver, 2002; Scase, 2000). What does need to be recognised is that even though small businesses are vital to all economies, "small firms are not just scaled-down versions of large ones". (1996, p4). This means that whereas most large business have embraced technology and electronic business practices, many small businesses have not.

OPPORTUNITIES FOR SMES AND E-BUSINESS

Business to business electronic business

Business to business electronic commerce includes supply chain management, virtual alliances, virtual trading partners, disintermediation and reintermediation (NOIE, 2000). The National Office of the Information Economy (NOIE, 2000) in Australia has confirmed that business-to-business e-business activity is greater than business-to-consumer or business-to-government electronic commerce. NOIE found no reliable figures giving an exact breakdown of business-to-business compared to business-to-consumer electronic commerce. However, it was found that of total e-business activity business-to-business electronic commerce shows dominance over both business-to-consumer and business-to-government electronic commerce.

Business-to-business e-business is a growth area for all Australian businesses (see figure 1 above). SMEs can take advantage of this form of electronic business by forming virtual alliances and online trading partners

Figure 1 Business-to-business electronic commerce (NOIE 2000)

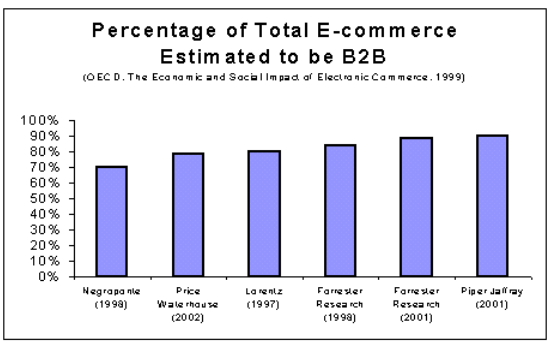
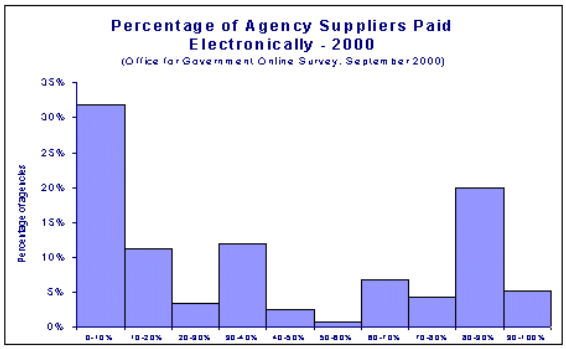


Figure 2 Percentage of agency suppliers paid electronically (NOIE 2000)



Business to Government electronic business

Several Australian State and Federal Government departments are conducting online business with companies, which may have a significant impact on the SME sector. The Department of Industry and Technology (DIT) manages government tenders, the Government Electronic Market (GEM) and the Government Contracting Information Bulletin Board. DIT currently have tender information available online, including advance notice of forthcoming tenders not available in hard copy, which disadvantages smaller business not yet online (DIT 2002).

The Australian Taxation Office (ATO) in conjunction with the Australian Securities and Investments Commission (ASIC) trialed a new initiative for companies, the eREGISTERS system, (http://www.ato.gov.au). This initiative invited interested companies to "…participate in its eREGISTERS trial in which company officers will be able to lodge their company annual return, view their company information, change their address details and make associated electronic payments via the Internet".

The Federal Government's preferred payment option is to pay all its suppliers electronically. By mid 2000 96% of all Commonwealth government agencies paid at least some of their suppliers electronically (see Figure 2 below). This Government strategy will have a huge impact on SMEs, as their ability to remain suppliers to Government will be intrinsically linked with their ability to purchase/upgrade the required technology, pay for an Internet connection and any required software.

The current and future direction in business to Government electronic commerce will have a wide-reaching effect on the SME sector. Although Government acknowledges commitment to SMEs (NOIE, 2003) there is no indication within Government policies and strategies as to how SMEs will be assisted in meeting the challenges of business to Government electronic commerce.

Why the lack of uptake of technology by SMEs

The primary reason given for lack of continuous improvement in technology amongst many small businesses is that they see no real benefit in having a web presence, that is they perceive their businesses to be too small, or they had not factored in the on-going maintenance of web pages (ABS, 2003; van Bevernen & Thomson, 2002). Fear of the unknown and lack of skills have also posited as reasons why the uptake of technology is less for small businesses (Barry & Milner, 2002; Darch & Lucas, 2002; Lewis, 2002).

Lack of skills would appear to be a significant barrier, which may well appear to be easily addressed, that is training can be tailored to meet the needs of the target market, however as Billet (2001, p. 416) points out "given small business reluctance and resistance to participate in structured VET programs, the task of increasing participation remains a particularly difficult request; a "hard ask". It would appear that many SMEs do not have a good understanding of even the concept of e-business.

Another issue for small operators is security of the Internet. Users of the Internet remain uncertain about the security of using and transacting on the Internet. Particular concerns that have been identified include: security of sensitive personal information disclosed over the Internet; uncertainties about how personally identifiable information may be used or disclosed to third parties; concern about receiving unsolicited advertising material, spamming and hackers or other intruders interfering with websites (Freehill 2000 ,p.2). The American Federal Trade Commission stated that:

the proliferation of readily available personal information…also could jeopardise privacy and facilitate fraud and deception. These risks make consumers reluctant to use the Internet or participate in online transactions and therefore could prevent consumers from obtaining the benefits promised by online commerce (Federal 2000 ,p.28).

Opportunities for Australian SMEs to engage in e-business initiatives are available and ready to be exploited. Media exposure has provided awareness for SMEs of such opportunities (DCITA 2000). Concomitantly the media has also created an additional barrier for SME adoption of e-business initiatives with saturation coverage of dot com crashes during 2001. It has also been suggested that Australian SMEs are deliberately ignoring e-business opportunities and alienating whole market segments. One such segment is the high income earning bracket who represent 22 per cent of the Australian population and have 47 per cent of discretionary spending power (DCITA 2000, p.5). It is estimated that 80 per cent of higher income earners are connected to the Internet and it will seriously disadvantage SMEs to ignore this market sector.

The effect of low uptake of technology

An outcome of this lack of adoption is that small businesses could well be disadvantaging themselves, as many large organisations and government agencies are working towards e-procurement as their principal interface with suppliers.

It has been suggested that up to 20% of Australian SMEs will fail if they do not adopt e-business practices and integrate these practices into their business strategies and planning processes (DCITA 2000). As SMEs are integral to the Australian economy and employment growth a 20% failure rate would have a serious negative impact on the fiscal health of the nation. This 20% failure rate is in addition to the current 8% of all small businesses and 5% of medium businesses that fail (Bickerdyke, Lattimore et al. 2000). The impact on employment rates of business failure based on the current failure rates causes up to 160,000 employees per annum to lose their jobs (Bickerdyke, Lattimore et al. 2000 p.38). When multiplied by a possible additional 20% SME business failures, unemployment rates could increase exponentially. An outcome that would have a detrimental effect on the Australian economy. This study seeks to address how Australian SMEs can maintain and enhance both profitability and efficiency by successfully adopting and engaging in e-business practices.

The Small Business Index (SBI 2001) stated that SMEs have not yet fully established the connection between use of the Internet and transacting business on the Internet. This concept is supported by a recent ABS survey, when it was found that micro businesses had a lower level of IT adoption than other sized businesses. The ABS compared 3 indicators, ownership of a computer, access to the internet and a web presence. 79% of Micro businesses used computers, 65% had access to the Internet and only 15% had a web presence (ABS 2003). Given that micro businesses make up the majority businesses in Australia, this is certainly cause for concern (ABS, 2002).

The above statistics suggest are that many SMEs using the Internet are not e-business ready and are in need of further information and assistance to make the transition to online trading. With further research on e-business opportunities, barriers and strategies, SMEs may gain the necessary knowledge to make the leap from e-business readiness to e-business enabled (Bode and Burn 2002).

This study reports the findings of a recent empirical study of SMEs in one geographic area and their uptake of technology. This paper also discusses why some SMEs are not only not e-enabled, they also have no immediate desire or intention to become e-enabled. This decision has serious policy implications, as government communication with stakeholders, in this instance SMEs is unlikely to be fulfilled if the very group

that governments seek to communicate with, simply do not have to tools to facilitate the dialogue.

METHODOLOGY

The principal research questions were:

- Does size of business effect the uptake of technology?
- What are the main barriers to technology uptake?

The questionnaire was personally administered to several locations within a local government authority. The sample was representative of the general business population. The data presented here is only part of a more extensive study, however the results are sufficiently noteworthy to warrant discussion.

In total 450 surveys were delivered of which 196 were completed, giving a response rate of 44%, which is a good response rate, given that SMEs are notoriously difficult to elicit responses from (Goode, 2002; Walker, 2002). Many businesses either declined to respond, were too busy to respond at the time and agreed to fill in and post back and some businesses were not available at all at the time of contact. The data was analysed using SPSS version 11. In order to verify the quantitative responses a focus group was also conducted to round out the findings. There were 8 participants in the focus group, representing various different industry sectors, however 7 out of 8 were micro businesses.

RESULTS

The results are somewhat different to the most recent ABS data on business use of technology (2003), and it should be noted that both the business size and the questions asked are not mirrored. For example the ABS data refers to internet access, rather than an actual business email, however an assumption is made that if a business has internet access it is likely to also have an email, however this could explain why the sample has a lower number of micro businesses with business emails. The current sample was segmented by number of employees, using the categories micro (0-4) small (5-19) and then because of the small number of responses grouping all other businesses together, which includes both medium and large (more than 20). The ABS has 4 categories in total, the first 2 being the same as the sample categories, followed by 20-99 and then 100 or more persons. The majority of respondents in this sample were micro sized businesses (118) followed by small (57) with only 18 medium to large business participating.

What the current data shows is that even though the number of micro businesses which have a webpage is higher than the ABS data, it is still an overall small number. This could be interpreted several ways, it could be looked at as an opportunity for web designers to market their skills to this business sector and also an opportunity for training providers. Conversely it needs to be understood why the uptake is so low. It does however answer the first research question which was whether size matters, and in this instance the larger the business the more likely they are to be e-enabled.

Reasons for not being e-enabled.

The main reasons given on the questionnaire for not having a website were that they didn't have internet connection, that they hadn't made the effort and that their business type didn't need it, which was also linked to the respondents preference for 'personal' contact with suppliers and customers.

During the focus group session the aspect of technophobia was discussed. It should be pointed out that the majority of the participants were over 40 years of age which may well be a determining factor in some of their opinions. The consensus of the group was that whereas they acknowledged that technology and especially electronic communication was becoming all pervasive, they somehow felt immune from it. It was something that was applicable to other businesses but not their own. A typical comment was:

"I know that a lot of businesses in my line are getting on the net and stuff, but I don't think the people I deal with are that interested, anyway it's as quick to talk to people on the phone".

A more forthright comment was as follows:

"Bloody computers they are a hassle, always breaking down, I am too busy to have to worry about that aspect of the business".

This comment prompted discussion about how comfortable the group felt about using computers. One comment which seemed to resonate with the whole group was as follows:

"I really am not that comfortable using the computer, my young lad just gets on there and does stuff, but I think I must be getting old as its all too hard really"

When asked about there technological competence, 2 of the group said that they were reasonably competent, half of the group said that they could 'manage' but didn't actually like 'fiddling' about on the computer and the remaining 2 stated that they were not competent and left that aspect of the business to either someone else in the business or their spouse. The aspect of training was also discussed. Of the people who stated that they were not competent, they acknowledged that they did need to up-skill, but that time was the critical issue. As one respondent said:

"Look I would really like to know how it all works but when am I ever going to find the time to learn? Anne (his spouse) does all of the bookwork and she's pretty good, so I suppose between us we manage".

This would seem to indicate that technology has not actually past them by, rather that the pressures of operating a small business mean that there is little time to engage in activities other than core business. It could be argued that learning how to become more effective, via electronic commerce should be considered core business, however training is often seen as a financial impost rather than a benefit.

What was also of interest was the amount of money that the businesses spent on computer or computer related hardware per year. Table 2 shows the dollar amounts

These figures show just how little both micro small business are spending on technology.

DISCUSSION AND CONCLUSION

The research questions addressed by this paper were: Does size of business affect the uptake of technology? and What are the main barriers to technology uptake?

It can be stated quite clearly that of the SMEs surveyed in this study the smaller the business and in particular micro businesses, the less likely they were to be e-enabled or to even consider the benefits of engaging in e-business. This finding supports the outcomes of the ABS study (2003) on business use of technology. More importantly is the latter question in regard to the barriers to technology uptake by the smaller end of industry players. The data suggests that the smaller the business the less comprehension there is on the advantages of e-business. A number of issues have been identified that impact on these findings including micro and small business fear of technology (technophobia), lack of skills and no 'champion' to take a mentor role for this industry

	Business email		Business webpage	
	Sample	ABS	Sample	ABS
Micro	48%	65%	23%	15%
Small	83%	80%	43%	34%
Rest of sample	100%		89%	
ABS 20-99		93%		55%
ABS 100 +		99%		81%

	<$1000	<$5000	<$10,000	<$20,000	>$20,000	>$50,000
Micro	80%	15%	3%	0%	1%	1%
Small	39%	36%	13%	6%	4%	2%
Rest of sample	11%	22%	17%	17%	0%	33%

sector. Both State and Federal Government departments produce documentation and advertising extolling the virtues of e-business for the SME sector and conversely wield a big stick by implying the imminent failure of multitudes of small business who fail to heed these benefits. Yet, it could be asked, what is really being done of a practical nature to assist the small player in achieving e-enabled technology uptake?

This research forms part of a larger ongoing project into SMEs and e-business uptake focusing on training providers. Concomitant research explores the value of an online training course for SMEs and e-enabled technology and future research will take these findings into an Australia wide study exploring the best practice options for upskilling this industry sector and circumventing the threat of economic failure that lack of compliance suggests.

REFERENCES

Australian Bureau of Statistics (2003). *Business Use of Information Technology (cat. 8129)*. Canberra, Australian Bureau of Statistics.

Australian Bureau of Statistics (2002). *Small Business in Australia (cat. 1321)*. Canberra: Australian Bureau. of Statistics.

Beaver, G. (2002). *Small Business, Entrepreneurship and Enterprise Development*. Harlow: Pearson Educational Limited.

Bickerdyke, I., R. Lattimore, et al. (2000). Business failure and change: An Australian perspective. Canberra, Productivity Commission: 217.

Billett, S. (2001). Increasing small business participation in VET: a "hard ask". Education + Training, 43 (8/9) 416-425.

Bode, S. and J. M. Burn (2002). Strategies for consultancy engagement for e-business development - a case analysis of Australian SMEs. *Managing Information Technology in Small Business: challenges and solutions*. S. Burgess. Melbourne, Idea Group**:** 227-245.

Burns, P. (1996). Introduction: The significance of small firms. In P. Burns & J. Dewhurst (Eds.), *Small Business and Entrepreneurship* (2nd ed., pp. 1-19). Basingstoke: Macmillan.

Darch, H. & Lucas, T. (2002). Training as an e-commerce enabler. *Journal of Workplace Learning, 14* (4), 148-155.

DCITA (2000). Taking the plunge 2000: sink or swim? Canberra, Department of Communications, Information Technology and the Arts.

DIT (2002). Agencies guide to government purchasing and tendering, Department of Industry and Technology. 2002.

Federal, T. C. (2000). Privacy online: fair information practices in the electronic marketplace. A report to Congress. Washington, Federal Trade Commission**:** 1-208.

Frank, H., & Landström, H. (1997). Entreprenuership and small business in Europe - economic background and academic infrastructure. In H. Landström, H. Frank, & J. M. Veciana (Eds.), *Entrepreneurship and Small Business Research in Europe* (pp. 1-13). Aldershot: Avebury.

Freehill, H. A. P. (2000). Internet privacy survey report 2000. Perth, Freehill, Hollingdale and Page.

Goode, S. (2002). Management attitudes toward the world wide web in Australian business. *Information Systems Management,* (Winter).

Howard, J. (1997). *More Time for Business.* Canberra: Australian Government Publishing Service.

ISR (2000). Statistics and industry profiles: Australian service sector review 2000. Canberra, Department of Industry Science and Resources**:** 1-98.

Lewis, S. (Feb 2002). Fear of the unknown. *Asian Business,* (p. 41)

NOIE (2001). Advancing with e-commerce, National Office for the Information Economy. 2002.

NOIE (2000). Current state of play, National Office for the Information Economy. 2001.

SBI (2001). Survey of computer technology and e-commerce in Australian small and medium businesses: Special Report. Canberra, Small Business Index: 1-40.

Scase, R. (2000). The enterprise culture: The socio-economic context of small firms. In S. Carter & D. Jones-Evans (Eds.), *Enterprise and Small Business: Principles, Practice and Policy* (pp. 32-47). Harlow: Financial Times Prentice Hall.

Small and Medium Enterprise Research Centre (2002) *A Profile of the Home-based Business Sector within the City of Swan*. Perth: Edith Cowan University.

Storey, D. J. (1994). *Understanding the Small Business Sector*. London: Routledge.

van Beveren, J. & Thomson, H. (2002). The use of electronic commerce by SMEs in Victoria, Australia. *Journal of Small Business Management, 40* (3) 250-253.

Walker, E.A. (2002). Small Business Owners' Measures of Success. *Unpublished Doctoral Thesis.* Perth: Edith Cowan University.