

6. ONLINE SERVICES IN BUSINESS

6.1 Overview

New ways of conducting business are emerging as the Australian business community continues to develop its awareness of the Internet and electronic commerce (e-commerce).

Government is encouraging businesses to embrace the Internet and e-commerce so as to increase efficiency, access new market opportunities, and be more globally competitive.

While there is a steady stream of reports being released about the Internet and e-commerce, nationally and globally, they are difficult to relate to a common framework. Many have a marketing orientation and an associated emphasis on attitudes towards take up and use. Much information is available only on a proprietary basis. In developing this approach we have used publicly available sources. This has also meant that the focus in some aspects is primarily on small and medium enterprises.

An important action is to develop greater clarity about the questions a monitoring process is intended to inform.

In this section we consider available data to illustrate the characteristics of access and use, and draw some international comparisons. We show the variations across industry sectors and across activities, and place the use of online services in the context of the use of a range of communication channels. We outline ways to consider effective use through an applications focus.

Applications Identified

Four application areas are identified:

- ◆ Creating Market Presence (reflecting new market opportunity).
- ◆ Customer/Client Management (reflecting increased efficiency in managing relationships and includes transactions).
- ◆ Supply Chain Management (reflecting increased efficiency and cost savings).
- ◆ Work Group Collaboration and Product Development (reflecting internal efficiency bringing with it increases in productivity)

Differentiation of these application areas assists with the focus on the role of online services in different business processes. It also separates the quite different activities that are variously seen to be components of electronic commerce.

Status

Australian business leaders are becoming receptive to the impact that online services or e-commerce may have on the way they conduct business. The 1998 Andersen Consulting survey of CEOs found that "eighty per cent of CEO respondents agree that e-commerce will 'revolutionise' the way they do business in five years". However, the survey also indicated that while CEOs highest strategic priorities are to reduce costs, increase revenues from existing customers, use capital more effectively and increase revenues by gaining new customers, the use of online services is a low strategic priority.¹

¹ Andersen Consulting *E-commerce: Our future today* April 1998
www.ac.com/services/ecommerce/ourfuture.pdf, p 4.

Small and medium enterprises appear to be adopting the use of the Internet at least comparably with businesses internationally. The most advanced development appears to be in the activities related to creating market presence and customer client management.

The financial services and media sectors appear to be applying the services and technology at a faster rate than other industry sectors. It is within these sectors that new services such as Internet banking, online share trading and online magazines are being extensively marketed.

The manufacturing and retail industry appear to be the most advanced in relation to supply chain management. However, for medium enterprises past experience with EDI has left a negative perception for many organisations. This, combined with a lack of technical capability has hindered development within this application.

In the area of work group collaboration e-mail is being used extensively as a means of communicating within organisations and externally.

The barriers to development and effective use of online services vary according to enterprise size. Common barriers include:

- ◆ Lack of knowledge, interest, skill or time;
- ◆ Technical capacity and organisational capability
- ◆ Technology phobia
- ◆ Cost of participation
- ◆ Concerns with security and privacy
- ◆ Lack of business reasons to participate
- ◆ Resistance to change
- ◆ Quality of service
- ◆ Infrastructure/cost

Government Initiatives and Policy Objectives

In addressing the development of the Information Economy the Federal Government has established a range of initiatives aimed at getting Australian business online. These include:

- ◆ the establishment of the National Office for the Information Economy (NOIE), with a strong focus on e-commerce;
- ◆ the DIST Business Online program; and
- ◆ creating the Australian Electronic Business Network to address skills and awareness barriers.

Associated with these initiatives are some statements of policy objectives. The recent consultative document *Towards a National Strategy for the Information Economy*, developed by NOIE for the Ministerial Council for the Information Economy, states the objective of:

- ◆ Raising awareness of online systems so that by the year 2000 every Australian business is aware of the benefits of doing business online

while the DIST *Getting Business Online* proposes:

- ◆ At least 90% of firms in specific industry sectors (identified as benefiting from being online) using online business systems in the next five years.

The DIST objective provides a reasonably specific focus for monitoring progress. It is amplified with the view that benefits from being online exist where:

- ◆ The industry sector has a high reliance on information (service industries such as tourism; supply chain management in automotive manufacture, supermarket grocers, or pharmaceutical suppliers).
- ◆ Products and services in the industry sector can be easily digitised (eg, education, entertainment and media).
- ◆ A quick response time is required in key areas of the industry's operations (eg, transport of goods, automotive manufacture)
- ◆ The industry sector is located in a rural or a remote area.
- ◆ The customers are more interested in a firm's products or services than its location (eg, computer software, books and products and services which can be assessed online).
- ◆ The industry sector has been protected from competition by natural or regulatory barriers that can be circumvented by electronic commerce (eg, financial services).²

A review of these objectives as a structure for monitoring may lead to the clarification of additional objectives in the forms of:

- ◆ international comparisons, and
- ◆ effective use - seeking evidence of value to businesses and to users as a necessary requirement for sustainable use of online services.

Ongoing Data Sources and Arrangements

An ongoing monitoring process should illuminate the achievement of policy objectives - furthering understanding of their appropriateness, the present situation, and possible barriers and desirable actions to achieve them. At this stage there is not a systematic relationship between the collection of data and the examination of objectives of this nature.

A well developed monitoring process needs to clearly differentiate key characteristics of the business sector and its use of online services, including:

- ◆ Enterprise size and character,
- ◆ Industry sector,
- ◆ Business process/application, and
- ◆ Relationship to other communications channels

Current public data sources do this to a limited extent. We have used four primary sources for the development of this section:

- ◆ The Yellow Pages® *Small Business Index* special reports, which provide data for small and medium business on access, reasons for use, intentions, and actual usage³;
- ◆ The DIST Information Industries and Online Taskforce, Electronic Commerce Steering Group has recently released a report *Stats. electronic commerce in Australia*, in conjunction with

² Information Industries and Online Taskforce, *Getting Business Online*, DIST, May 1998, pages 13, 21-23.

³ The primary reference is Yellow Pages Australia ® *Small Business Index Report. Survey of e-commerce in Australian small and medium businesses* ©Telstra Corporation Limited. ®, April, 1998.

www.consult, largely based on online surveys of current Internet users⁴;

- ◆ A recent CIRCIT survey on the *Use of Information and Communications Services by Small Business*, which explored the use of online services in different application areas and in comparison to other communications channels⁵; and
- ◆ Internationally, the UK Spectrum Strategy reports provide an important basis for establishing some international comparisons or benchmarks⁶.

We have drawn on other sources where appropriate, but we have not endeavoured to comprehensively review the body of proprietary material.⁷ We also reviewed this approach in a series of formal and informal discussions with interested parties. Particular contact has been made with the Business Council of Australia, the Australian Coalition of Service Industries, the Australian Electronic Business Network, DIST and the ABS.

Future ABS surveys are likely to provide a more comprehensive base of public information, similar to that utilised in the Residential Users section.

The analysis in this section indicates the need to resolve a number of issues for an ongoing monitoring process. We see the DIST Steering Committee on Electronic Commerce Statistics as the logical existing forum for resolving these matters and overseeing ongoing activity.

The forthcoming ABS survey on Small Business Use of IT should provide a basic source of population statistics. The OECD has a committee on [Information, Computer and Communications Policy \(ICCP\)](#), in which the ABS participates, examining statistics for electronic commerce and the business use of information technologies.

⁴ www.consult and Information Industries and Online Taskforce, *Stats.electronic commerce in Australia*, April 1998, www.dist.gov.au/infoind.stats/ecomstat.pdf

⁵ Slegers, Claudia, et al, *Use of Information and Communications Services by Small Business: Quantitative Study*, CIRCIT (to be published); a mail survey with 741 respondents conducted in May-June 1998.

⁶ This international study is now in its third year, the most recent report being: Spectrum Strategy Consultants, *Moving into the Information Society: An International Benchmarking Study* (1998), Report for the Department of Trade and Industry, UK: www.isi.gov.uk/isi/bench/mitia/

⁷ Summaries of sources known to us are contained in Sections 3: *Australian Data Sources* and 4: *International Data Sources*

6.2 Access to Online Services

The following tables illustrate the kinds of information available in Australia and internationally on access by businesses to the Internet and the underlying PC base. These measures by business might be extended to consider, particularly in large businesses, the access of individual employees.

Table 6.1: Australian Access to PCs and Internet Services (% of businesses)

Enterprise Classification	Year	PC Penetration	PC with Modem	Internet Access
Small	96	74	31	9
	97	76	42	23
	98	74	42	34
Medium	96			
	97			
	98	98	83	65
All businesses; weighted by workforce size (comparable to International table below) (a)	98	89	74	64

(a) CIRCIT calculation, using Table 2.1, *Employment and Firm Shares by Firm Size, A Portrait of Australian Business*, DIST, 1995, p 11, for workforce size weightings.

Source: Yellow Pages Australia® *Small Business Index Reports; Survey of e-commerce in Australian small and medium businesses*, ©Telstra Corporation Limited, April 1998, pages 4,5,7.

Table 6.2: International Access to PCs and Internet Services - all businesses (% of businesses, weighted by workforce size)

Country	Year	PC Penetration	PC with Modem	Internet Access
France	97	94	61	13
	98	94	63	24
Germany	97	96	67	27
	98	95	71	44
Japan	97	95	75	63
	98	98	76	73
UK	97	94	73	35
	98	91	78	49
USA	97	94	81	51
	98	92	78	57

Source: Spectrum Strategy Consultants, *Moving into the Information Society: An International Benchmarking Study* (1998), Report for the Department of Trade and Industry, UK, p. 9.

The data are drawn from the Yellow Pages and Spectrum Strategy reports. The measures are not directly comparable. The Spectrum Strategy measures are a weighted percentage of all business, by workforce size. This gives a greater weighting to medium and large businesses than that based solely on relative number of businesses. Similarly weighted Australian figures for all businesses for 1998 are included in Table 6.1.

While this adjustment gives some basis for comparison it should be treated with reserve. Closer attention needs to be given to validating these figures and understanding the sources of difference in comparisons.

Taking these comments into account, the data indicate:

1. The penetration of PCs and PCs with modems in Australian small businesses did not increase over the period 1997-98. This trend is reflected in businesses in other countries.
2. The number of Australian small businesses with Internet access increased considerably from 1996 to 1997 and again from 1997 to 1998. This percentage is, however, approaching the percentage of business with PCs with modems which may suggest a boundary on Internet access.
3. The penetration of PCs in Australian businesses is lower than all other countries surveyed for the Spectrum report, although the percentage of PCs with modems is in the higher range.
4. Australian businesses are well placed in terms of Internet access compared to the other countries surveyed, being second only to Japan.

Access by Industry Sector

Access to Internet Services is highly variable by industry sector, as Table 6.3 indicates. More detailed analysis of access figures will be necessary to review progress on the access element of the DIST objective of 90% businesses online in targeted sectors.

Table 6.3: Access to Internet Services by Industry Sector (% of small and medium businesses in Sector), February 1998

Industry Sector	Internet Access
Manufacturing	33
Building/Construction	19
Wholesale/Retail	24
Transport/Storage	39
Business Services	58
Personal services	34
TOTAL	35

Source: Yellow Pages Australia® *Small Business Index Reports; Survey of e-commerce in Australian small and medium businesses*, ©Telstra Corporation Limited, April 1998, p 8.

6.3 Use of Online Services

The extent and nature of use of online services may be examined through data on

- ◆ the frequency of use (eg, within the last week, month, year),
- ◆ changes in patterns of use,
- ◆ the activities in which online services are used, and
- ◆ the relative importance of online services compared to other communication channels.

Data on the latter two areas is available through the CIRCIT survey. This indicates the continued importance of traditional channels of phone, face-face and post compared to newer online services, although the use of the WWW and email is rated of importance by a significant number of businesses.

Table 6.4 Ratings of importance of different communication channels across activities, small business sample

	Phone	Face-face	Post	Fax	WWW	Email	Other
Marketing, promotion	85	84	49	30	17	8	7 TV advertising
Receive orders	84	69	45	67	5	15	
Order goods/services	80	82	29	44	3	13	5 Other online
Communicate within business	71	89	19	32		16	
Get information on goods and services	72	63	66	62	19	19	

Source: Slegers, Claudia, et al, *Use of Information and Communications Services by Small Business: Quantitative Study*, CIRCIT Report 44 (to be published, preliminary findings). Percentages of sample responding 'important' and 'very important'.

This use of the Internet is much less pronounced for payments.

Table 6.5 Ratings of importance of different forms of money across activities, small business sample

	Cheque by mail	Cheque over counter	Direct debit	Credit card over phone	Credit card over counter	Credit card no. by fax	Phone payments from bank account	Cash	EFTPOS	Credit card no over Internet
Pay for goods/services	94	28	23	22	18	10	10	9	7	4
Payment from customers	84	39	36	16	27			36	19	
Pay employees	61		40					32		

Source: Slegers, Claudia, et al, *Use of Information and Communications Services by Small Business: Quantitative Study*, CIRCIT Research Report 44 (to be published, preliminary findings). Percentages of sample responding 'important' and 'very important'.

6.4 Effective Use One approach to determining the extent to which the use of online services is effective is to examine the evidence of value for the key stakeholders in different applications. Following are initial considerations of three of the suggested application areas.

Another approach is to examine whether there are relationships between profitability and productivity of online services. The ABS longitudinal *Business Growth and Performance Survey* will provide a source of data later in 1998 to investigate this relationship.

Application 1: Market Presence

The first stage of any market entry strategy is to establish a presence within the market place. Organisations have traditionally used billboard advertising, newspaper advertising or sponsorship to establish such presence.

The Internet is another channel that enterprises are considering for establishing market presence. The first level of market presence via the Internet is to create a digital form of corporate information as a home page on the World Wide Web.

Development Status

www.consult's 1997 Enterprise Survey indicates that Product Promotion and Advertising is clearly the dominant reason for businesses using the Internet (over 50%).⁸ The Yellow Pages survey shows 13% of small and medium businesses with a home page.

Utilising the Spectrum Strategy weighted statistics, Australian businesses appear comparable with other countries in establishing a Web presence.

Table 6.6: Business with Dedicated Home Page

Enterprise Classification	Australia February 1998	Australia May 1997	International 1998
Businesses with a dedicated Home Page			
Small Business	12%	6% ^{97A18.2}	
Medium Business	34%		
All Businesses (Small and Medium)	13%		
All Businesses (weighted by workforce size)	38% (a)		France 14% Germany 30% Japan 45% UK 37% US 41%

(a) CIRCIT calculation to provide weighted statistics comparable to international statistics of Spectrum Strategy.

Source: Yellow Pages Australia@*Small Business Index Reports; Survey of e-commerce in Australian small and medium businesses*, ©Telstra Corporation Limited, April 1998, p1.

Spectrum Strategy Consultants, *Moving into the Information Society: An International Benchmarking Study* (1998), Report for the Department of Trade and Industry, UK

⁸ www.consult and Information Industries and Online Taskforce, *Stats.electronic commerce in Australia*, April 1998, www.dist.gov.au/infoind.stats/ecomstat.pdf, p 20.

Web presence varies considerably by industry sector, reflecting the relevance of this application to the nature of the business, as Table 6.4 indicates.

Table 6.7: Web Presence by Industry Sector (Small Business Sample)

Industry Sector	Have Own Home Page (% of sample)
Manufacturing	29
Retail/Wholesale	22
Business Services/Finance	31
Construction	9
Transport/Storage	22
Recreational/Personal Services	29
Agriculture	3.2

Source: Slegers, Claudia, et al, *Use of Information and Communications Services by Small Business: Quantitative Study*, CIRCIT (to be published, preliminary findings). This sample provides higher estimates of Internet access than the Yellow Pages survey, probably due to sampling and response variations (the CIRCIT sample has a lower incidence of very small businesses).

Indicators of Effective Use

Businesses will determine effective use of online services in terms of the value added to their activities. The DIST report observes:

Less than 20% of enterprises with web sites believe that they have achieved a ROI greater than 10% on their investment.... The early enterprise adopters of Internet use, with a web presence, remain skeptical about the value of the website to their business, with less than 35% claiming that their web site was significant to their business.

This judgment is attributed to the low numbers of active web users with interest in Australian content, and a failure to realise competitive advantage.⁹

Apart from these observations there is little information available to judge effective use in this application area. The following tables suggest indicators of effective use, and associated measures, which might be further explored to understand the basis of value to businesses and their customers.

⁹ www.consult and Information Industries and Online Taskforce, *Stats.electronic commerce in Australia*, April 1998, www.dist.gov.au/infoind.stats/ecomstat.pdf, pages 22-23.

Table 6.8: Trial Measures of Effective Use: From viewpoint of Users (Customers)

Indicator	Measure
<i>Usefulness (meets needs)</i>	Satisfaction with information gained No. of businesses online with a home page (choice) Preference to use across different channels Average viewing time by Industry sector
<i>Affordability of service</i>	Cost of access Number of users
<i>Ease of Use</i> Accessibility of service Ability to use Interface Social preparedness to use	Physical accessibility to service terminal or interface Frequency of use Time spent using Satisfaction rating of experience

Table 6.9: Trial Measures of Effective Use: From viewpoint of Providers (Business)

Indicator	Measure
<i>Improved productivity leverage</i>	Satisfied with level of return Significance of web presence Satisfied that stated objectives have been achieved Allocation of advertising funds to different channels No of staff required to manage channel compared to other channels
<i>Improved range of services</i>	% of customers using services via industry sectors Average cost of providing alternative channel
<i>Increased market access</i>	Number of requests for information for those with online compared to those with out. Average revenues for those with online compared to those without by industry sector Nature of customer base using this service compared to other channels % of enquiries converted to further interactions

To establish progress towards these measures it may be necessary to combine qualitative and quantitative approaches including interview and observation of stakeholders together with analysis of statistical data.

Application 2: Customer/Client Management

This application embraces a range of processes that include delivery of goods, purchasing of goods and associated transactions, customer support, complaints, and the ongoing provision of information related to the organisation's directions and product offerings.

Each of the activities aims to enhance an organisation's relationship with customers/clients by being able to respond quickly and efficiently and meet the needs of the client.

Customer loyalty and the perception of the organisation's reputation, quality of service and the value it provides to customers and clients will be damaged by the ineffective development of this application.

Development Status

Certain industry sectors are leading the way in using online services. A recent study completed by Deloitte found "Of six industry sectors examined for the current level of electronic commercial use (customer transactions) the energy industry (23.3%) led the field followed by the

public sector (20.4%), finance industry (12.1%) manufacturing (9.2%) and consumer business (8.2%).¹⁰

To the community, the most visible industry sectors are the finance and media sectors. Both sectors have introduced new services that are using a variety of online services. For example: telephone banking; customer support or inquiries using interactive voice response; the Internet being used for conducting banking; and the distribution of electronic magazines.

In their marketing of such services, organisations are appealing to the need for convenience and are using incentives to attract people to use the services. Examples of this trend are the lower commission fees associated with purchasing shares online. Recently some banks have introduced a fee for counter transactions that exceed nominated time allocations.

The Internet as a means of delivering goods and paying for goods is still immature and is hampered by issues related to security and privacy.

In this application effective use may be related to the enhancement of the relationship between the parties. This will be reflected in increased loyalty by the customer/client, reduction in the churn of customers, and increased online transactions.

The user perspective on online shopping and electronic payments is considered in Section 9 of this report: Residential Users of Online Services.

Information is emerging about barriers to effective use. The biggest drawbacks to the usage of online services for transactions, as perceived by business, are the lack of personal contact, lack of trust in payment systems, and credit card fraud.¹¹ The DIST report cites concerns about online shopping amongst Internet users as

- ◆ for those who have tried online shopping "more than once":
 - response times (24%)
 - cost (23%)
 - security of financial transactions (13%)
- ◆ for those who "haven't tried it yet and probably won't":
 - cost (21%)
 - privacy of individuals (20%)
 - response times (19%)
 - security of financial transactions (12%)¹²

The following tables suggest indicators of effective use, and associated measures, which might be further explored to understand the basis of value to businesses and their customers.

Indicators of Effective Use

¹⁰ *Use it or lose it: online experts warn*, "The Age", Tuesday May 26 1998

¹¹ Yellow Pages Australia @*Small Business Index Report. Survey of e-commerce in Australian small and medium businesses* ©Telstra Corporation Limited. @, April, 1998, p 24.

¹² www.consult and Information Industries and Online Taskforce, *Stats.electronic commerce in Australia*, April 1998, www.dist.gov.au/infoind.stats/ecomstat.pdf , p. 16.

Table 6.10: Trial Measures of Effective Use: From the viewpoint of the user (Consumers/Clients)

Indicator	Measure
<i>Usefulness (meets needs)</i>	Satisfied that services meet needs Frequency of use over time Growth in the value of transactions Satisfied with time taken to complete transaction Volume of transactions Complaints
<i>Affordability of service</i>	Cost per transaction
<i>Ease of Use</i> Accessibility of service Ability to use Interface Social and organisational preparedness to use	Completed transactions % of customers/client whose first choice is online Prime use of Internet is to transact Satisfied with response time

Table 6.11: Trial Measures of Effective Use: From the viewpoint of the provider (Business)

Indicator	Measure
<i>Improved productivity / leverage</i>	Average value of transactions Value of new business generated through online services % of online transactions as a total of all transaction volumes and value Average cost of transaction across channels % of businesses who believe they have achieved business objectives by introducing new services
<i>Improved range of services</i>	Average delivery times online compared to physical channels Average time taken to complete transactions % of organisations that provide online services by sector Customer service rating comparisons between those providing online services compared to those without by industry sector
<i>Increased market access</i>	% of new business generated by various channels % of customers who use services regularly by location; CBD regional, state, International % of businesses that believe that new markets have been gained through using online services % of businesses that believe market share has increased through online services

Application 3: Supply Chain Management

Online approaches to controlling and integrating the supply chain as a means by which organisations can create competitive advantage have existed since the middle of the 1980s. EDI (Electronic Data Interchange) traditionally relied on private networks being established between suppliers and manufacturers.

The advantages of online approaches are in reducing time in manufacturing cycles for purchasing, inventory storage and shorter manufacturing runs. In turn this increases customer responsiveness and enables manufacturing "just in time".

The Internet is seen as enabling EDI to gain a greater acceptance with smaller to medium sized organisations, given that it provides a low cost public platform for data interchange.

Development Status The development of EDI using the Internet as a platform is still immature in this country. However, growth is expected with increasing business' capacity to use the Internet and increasing confidence about the security of the Internet.

A recent Delloite's survey suggested "that the use of the Internet for supply chain management applications will increase by an additional 45% over the next two years. And that means more than 70% of all companies will have adopted the Internet for applications linking companies to one another."¹³

Though the emphasis has been on manufacturing industries, we can expect to see in all industry sectors the transfer of commercial data using the Internet. A recent example includes a major Australian retailer using email to transfer instructions to its bank regarding EFT payments to suppliers.¹⁴

Development within small and medium enterprises will, to a certain degree, be linked to the trickle down effect of being part of a supply chain where larger organisations dictate the requirement to exchange information and orders online.¹⁵

The Australian Government is supporting a Supply Chain Partnerships program, as a demonstration to promote the advantages of using online services. It is expected that the program will support between 20-25 projects.¹⁶

(The format of describing applications and indicators of effective use has been terminated at this point, with the above being indicative of the suggested approach.)

¹³ *Use it or lose it: online experts warn*, "The Age", Tuesday May 26 1998

¹⁴ *Australian retailer sends million-dollar messages through the Internet*, "The Age", July 7 1998

¹⁵ Information Industries and Online Taskforce, *Getting Business Online*, DIST, May 1998, p. 16

¹⁶ Information Industries and Online Taskforce, *Getting Business Online*, DIST, May 1998, p. 44

6.5 Change Issues

The barriers to use of online services may be recognised and represented as "change issues", and become the focus of government policy and industry developments. Issues that CIRCIT studeis, other surveys and consultations have identified include:

- ◆ Lack of Knowledge and Interest of Businesses

This is recognised within Government, the supply industry, and industry associations. Programs are beginning to be developed through, for example, the National Office for the Information Economy and the Australian Electronic Business Network.

- ◆ Technical Capacity and Organisational Capability

Identified within Yellow Pages survey as a major barrier for small to medium enterprises, who lack the dedicated resources to consider options and cannot afford to employ consultants.

- ◆ Clarity about Business Benefits

The payback, and relevance to business processes, of use of online services is not clear to many businesses.

- ◆ Concerns about Security and Privacy (Businesses and Customers)

The need to develop confidence in the technology and its capacity to be secure is recognised by industry. Codes of conduct are being developed. Many Websites contain policy statements aiming to build trust.

- ◆ Quality of Service

Need for service standards and consumer safeguards becoming recognised.

- ◆ Infrastructure/Service costs