

5. ONLINE SERVICES IN GOVERNMENT

5.1 Overview

Governments in Australia, under increasing pressure to find more productive ways of addressing the needs of business users and consumers, are now taking advantage of online channels for both the internal and external delivery of services. In so doing, the aim has been:

- ◆ to make the right information available to more people when required (including those facing barriers of distance and the disabled),
- ◆ to improve the response time of information access and transactions, and
- ◆ in the long term, to achieve cost savings through overall efficiency gains.

The introduction of online services have also acted as timely catalysts for the re-engineering of government processes.

Applications Identified

The main government online application areas have been identified here as follows:

- ◆ Electronic Services Delivery (ESD);
- ◆ Inter & Intra-Department/Agency Communications; and
- ◆ Whole-of-Government Information Locator.

Status

Departments and Agencies within Government at the Federal and State levels are increasingly seen to be at the forefront of the adoption of information technology and acting as exemplars of technological awareness and the application of information and communication services. Concurrently, industry developments, investment in telecommunication infrastructure and competitive provision of services have emerged as key enablers of the adoption of online services.

Issues

Through the efforts of the Online Council of Ministers and the Online Council Officials, supported by OGIT and NOIE, serious attempts are now being made to promote consistency across governments on a national scale.

Since some services cannot be delivered online and others must be delivered via a choice of delivery channels to address the varying needs of business users and consumers, traditional channels must be retained. Nevertheless, the opportunities to realize further economies encourage the integration of the various service delivery systems. The long-term objective is to establish common data structures that foster a 'single window' approach to accessing governments both across departments and agencies within a given level as well as between Federal, State and Local Government jurisdictions.

Consultation

A series of formal and informal interactions were conducted with the relevant officers in the State, Territory and Federal Governments. This gave initial confirmation of the project approach, definition of terms and relevance of the applications identified. Particular emphasis was then placed on the appropriateness of the proposed measures of effective use and availability of relevant data.

Ongoing Data Sources and

Within either the Federal or State jurisdictions, there does not appear to be any publicly available data that quantifies either access to, use of, or effective use of government online services in the terms adopted here.

Arrangements

The ABS has indicated that they intend to broaden their present series of surveys investigating access and use of online services to encompass that of government services, commencing later in 1998.

Internationally, the small amount of publicly available data uncovered so far concerns access by the public to, and their use of, government online services in international case studies undertaken mainly in the US and the UK and reported as part of the G7 Government On-line Project. The results of such studies are understood to have influenced Australian Federal policy and implementation developments under the auspices of OGIT.

There is therefore a need to establish a suitable framework, perhaps under the auspices of NOIE and the Online Council of Ministers, that facilitates the ongoing collection, analysis and consideration of such data.

5.2 Access to Online Services

Distinctions

Distinctions between “access”, “use” and “effective use” have been developed, recognising that having access to services does not necessarily mean they are used and using them does not mean they are used effectively: “access” and “use” are considered to be necessary but not sufficient conditions for “effective use”.

Access to Service

Access to a service implies that equipment enabling service delivery has been purchased or the service can be subscribed to; alternatively, without purchase or subscription, it is physically possible to gain access to such enabling equipment or service.

Table 5.1 discusses the main access-related issues.

Table 5.1: Access to Government Online Services

Strategy	Australian governments tend to adopt supply-side strategies in delivering their services online to business users and consumers, in recognition of the reality that they have only limited direct control over the extent and nature of access made by the public to such services. Exceptions to this situation are discussed below.		
Infrastructure (network, service, interface)	<p>In the past, Governments have generally assumed that there is sufficient public switched telephone network presence, capacity and connectivity made available by Telstra and other carriers to adequately service almost all business users and consumers of their online services. In such instances, the network and service infrastructure would not pose a bottleneck or otherwise inhibit access being attempted.</p> <p>A major exception has been that of the VicOne initiative by the Government of Victoria whereby government departments, agencies and schools throughout the State are being connected with a prescribed degree of data connectivity and capacity (64 kbps ISDN and in some cases up to 34 Mbps), enabling Internet access on the same charging basis regardless of whether the user is based in a metropolitan or non-metropolitan location. Other initiatives, such as SkillsNet, offer both opportunities for access to, and training in, the use of Internet-based services.</p> <p>Although strictly not described in terms of ‘access to’ online services, particular mention should be made of the situation confronting Local Governments throughout Australia. Even though a business user (eg. developer) or consumer (eg. ratepayer) may happen to have access to the Internet generally, online access to a particular Local Government via the Internet is not possible if that party does not offer a Web and/or e-mail presence. Whilst virtually every department or agency within the Federal and State Governments offers at least some form of Web presence, the following data illustrates a significantly lower opportunity for users to access their Local Government:</p>		
	Group (1998 data)¹	Offering a Web Presence	Offering Comprehensive Information²
	All Councils & Shires Nationally (707)	24%	2.6%
	Urban Councils (442)	45%	3.4%
	Rural Councils & Shires (249)	12%	1.2%

Telephone interface	<p><u>Note:</u> (1) The Australian Local Government classification defines an urban council or shire as having a population in excess of 20,000. (2) Defined here as an up-to-date Web site, presenting in-depth information on Council/Shire activities as well as opportunities for electronic feedback.</p>			
	<p>Interface equipment that enables access to online services is generally either a telephone or a PC (or otherwise an equivalent device with a visual display unit/ VDU).</p> <p>Governments assume that 100% business users would have telephone access and that almost all consumers also have telephone access either in their home, via a public facility or at work. By these means, Interactive Voice Response services can be readily accessed, with the possible exception of users who are disabled.</p> <p>Telephone access, from the end-user perspective, is potentially available at any time of any day. In instances where a telephone call is not charged at an untimed unit-fee, the cost of access may then pose a limitation on the desire to utilize such access.</p> <p>Interactive access via telephones generally requires that the instruments have a keypad capability. In practice, all telephones in Australia either have such a capability or could be readily replaced with ones that do.</p>			
PC or VDU interface	<p>On the other hand, it cannot be necessarily assumed that all potential users of government online services have access to the Internet. The following figures indicate the current trends:</p>			
	Group (1998 data)	PC Penetration	PC with Modem	Internet access
	Large business	100%	100%	89%
	Medium business	98%	83%	65%
Small business	74%	42%	34%	
Households	42%	17%	13%	
<p>Sources: Yellow Pages Australia (April 1998). <i>Survey of e-commerce in Australian small and medium businesses</i>. Small Business Index. Melbourne: Telstra Corporation Ltd. Australian Bureau of Statistics (1998) <i>Household Use of Information Technology</i>. Australian Statistician.</p>				
<p>To compensate for this shortfall in business users and consumers actually having Internet access, State and Territory Governments have adopted strategies that will eventually provide all public libraries and schools with access to the Internet. Public-access terminals with VDUs (ie. kiosks) are also being considered a supplemental means of providing access to the Internet or otherwise direct access to a non-Internet government online service. Operational examples of successful kiosks are those of <i>maxi</i> in Victoria and <i>Austouch</i> in the Australian Capital Territory.</p> <p>Whilst kiosks operated by or under a franchise to Governments are currently free-of-charge to users, they may not necessarily be accessible 24 hours of each day due to restrictions from being located within certain public places.</p>				

5.3 Use of Online Services

Use of Service Use of a service implies a level of quantification of the actual use or operation of the service, eg. in terms of usage volume or frequency of use, as well as the purpose for which the use was made.

Indicative measures of use are given in Table 5.2..

Table 5.2: Use of Government Online Services

Service Mode	Usage	
	Desirable Measure	Available Data *
Physical Counter	<ul style="list-style-type: none"> No. of physical transactions handled per unit time (eg. day, week) Change (decline) in No. of physical transactions over a period of time 	
Postal Mail		
Telephone/IVR	<ul style="list-style-type: none"> No. of completed calls per day Average time to complete call Average call holding time; - according to request type, viz. information, interactivity/communication, transaction 	
Internet/Email - Internal within Gov't/Agencies - External to & from Gov't/Agencies	<ul style="list-style-type: none"> No. of messages sent (& received) per unit time Total hours of use per unit time 	
Internet/Web	<ul style="list-style-type: none"> No. of requests by: channel, type of request (viz. information, interactivity/communication, transaction), dep't/agency No. of/Growth in 'hits', No. of pages accessed over a rolling monthly period. Average time to execute a nominal request. 	<ul style="list-style-type: none"> No. of requests or 'hits' by: channel, type of request, dep't/agency [types of requests are: make a payment, acquire a product, book a service, change customer detail, information, progress monitoring, obtain customer feedback]. No. of requests achieved within 12 months or longer, compared to a given target.
Kiosk		
Public Library & Community Access	<ul style="list-style-type: none"> No. of persons using interface equipment (eg. PC for the Internet, kiosk) 	

* - Data of this nature is presently collected for the *maxi* and *Austouch* systems but the results are not in the public domain.

5.4 Effective Use

Effective Use of Service

Effective use of a service may be measured in terms of the actual or perceived value gained from use of the service, eg. satisfaction, affordability, return on investment, value for money, usefulness, extent of repeat use.

It is further examined here in terms of each of the three identified applications, viz.

1. Electronic Services Delivery (ESD);
2. Inter & Intra-Department/Agency Communications; and
3. Whole-of-Government Information Locator.

Application 1: Electronic Services Delivery (ESD)

ESD provides electronic information and transactions between government and business users and consumers. The offered services may be accessed:

- ◆ Over the Internet, typically via a PC at home, work or in a local library;
- ◆ From a kiosk, in a local shopping centre or government service centre;
- ◆ By telephone, to Interactive Voice Response systems and/or call centres with human operators.

Service is typically offered 24 hours a day, 7 days a week. Transactions are initially only informational but are evolving over time to encompass electronic commerce.

Development Status

Federal, State and Territory Governments have all implemented World Wide Web access via home pages initially focussed upon delivering government information. In various stages of development, they are expanding the basis of common data presentation and, for some agencies, are well advanced in introducing interactive services. The next generation of kiosk platforms are also adopting Web protocols.

Of all jurisdictions, Local Government exhibits the lowest level of ESD implementation in any form. Local Government is also the least advanced in terms of introducing interactive services.

Effective Use

Effective use of government online services is considered to apply to all stakeholders. These constitute:

- Business users and consumers;
- Content providers (being various departments and agencies);
- Service providers (who may be third party providers or even carriers).

For each of these groups an attempt has been made to understand the value they seek and to provide some trial measures of and possible data on effective use. This information is summarised in Tables 5.3 and 5.4 for the first two groups only.

Table 5.3: Measurement of Effective Use: From Viewpoint of Business Users and Consumers

Indicator	Trial Measures	Available Data*
<i>Usefulness (in meeting needs):</i> - Quality - Timeliness - Trust	<ul style="list-style-type: none"> • Satisfaction with relevance/accuracy of data • Availability of record of information or transaction • Willingness to use compared with physical channel • Convenience of hours of operation • Waiting time to gain physical access • Time to resolve matter (to gain information, transact service) • User trust in reliability of service; confidentiality of information (eg. personal data) imparted/security of transaction • Willingness to use service again/repeat usage • Incidence of repeat attempts to resolve same matter on one occasion 	<ul style="list-style-type: none"> • Number of users finding service to be useful • Motivation for use • Number of transactions by time of day, channel • Characteristics of repeat customers
<i>Affordability of service (incl. cost effectiveness)</i>	<ul style="list-style-type: none"> • Cost of access (for ownership, non-ownership); also expressed relative to pre-online service delivery alternatives • Cost of resolving matter (to gain information, transact service) 	
<i>Ease of Use:</i> - Physical Accessibility, Comfort - Ability to use interface - Social/organisational preparedness to use	<ul style="list-style-type: none"> • Location of service terminal/interface in relation to demand • Ability to deal with more than one agency in same access attempt • Unambiguity of operational steps • Multi-lingual capability • Availability of different channels for same service 	<ul style="list-style-type: none"> • Number of transactions by locality

* - Data of this nature is presently collected for the *maxi* and *Austouch* systems but the results are not in the public domain.

Table 5.4: Measurement of Effective Use: From Viewpoint of Content Providers (Government Departments and Agencies)

Indicator	Trial Measures	Available Data*
<i>Improved productivity/leverage</i>	<ul style="list-style-type: none"> • Cost of providing each transaction; also expressible relevant to pre-online service delivery alternatives • Service availability (in system terms) • Response time to complete transaction • Restructured process arising • Realisation of business strategy of dep't/agency 	<ul style="list-style-type: none"> • System availability • Response to complete an entire transaction
<i>Greater range of services</i>	<ul style="list-style-type: none"> • Customer satisfaction (according to business user, consumer) with range of services available • Ability to deal with more than one agency in same access attempt • Provision of new service option 	<ul style="list-style-type: none"> • Number and reason for help desk calls • Number of users indicating future intention to use which service
<i>Increased market access</i>	<ul style="list-style-type: none"> • Growth in number of effective transactions (based on number of transactions, by type, dep't/agency, time of day, physical locality) • Number of incomplete transactions and reason for such an outcome • Changed demographic of user group (measure of new audience) 	<ul style="list-style-type: none"> • Number of transactions by channel, transaction type, agency, time of day, locality • Number and reason for major incomplete transactions • Demographic features of users

* - Data of this nature is presently collected for the *maxi* and *Austouch* systems but the results are not in the public domain.

Illustrative examples

The Governments of Victoria and the ACT are the more advanced with the implementation of whole-of-government or integrated delivery approaches. Examples of the latter include: *maxi*, *Business Channel* and *Austouch*.

Victoria's maxi

maxi services can be accessed in three ways: via the Internet (<http://www.maxi.com.au>), Interactive Voice Response (IVR) using push-button telephones on 132723 and touchscreen kiosks located in public places. The first stage of the *maxi multimedia* ESD network went live in December 1997 and now over 30 multimedia kiosks are deployed at shopping centres, public libraries, council offices and government buildings in rural and metropolitan Victoria. *Maxi* is constantly monitoring user acceptance for application to future design changes.

Transaction-based services are initially available from five government bodies, viz. Moira Shire Council, Manningham City Council, VicRoads, Victorian Electoral Commission, Registry of Births, Deaths and Marriages, in addition to two private sector utilities, viz. Yarra Valley Water and Eastern Energy. The initially offered services are: vehicle and driver licence registration; birth certificates; voter enrolment; notifying multiple government agencies of a change of address; and paying bills, such as rates, water and electricity. Financial transaction processing, including a digital certificate service where necessary is also provided.

Victoria's Business Channel

The *Business Channel*, launched early 1998 within Victoria, provides business users with a single window to government information and services via the Internet. In introducing the *Business Channel*, among others, a systemic approach has been adopted to bringing the contributing departments and agencies online.

ACT's Austouch

The *Austouch* interactive kiosk system provides information on a wide variety of ACT Government and community services. The pilot was conducted from November 1994 to April 1995 and has since been fully implemented across at least 16 sites. *Austouch* kiosks were recently upgraded to also enable users to pay their rates, land taxes and traffic offences, in addition to providing information similar to that available via the ACT Government's Internet site (<http://www.act.gov.au/austouch/>). User acceptance of *Austouch* was analysed in detail from the beginning of the pilot and survey results utilized to modify ongoing service delivery.

Application 2: Inter and Intra- Department/ Agency Communications

Provision of electronic service delivery by governments requires communications infrastructure that is appropriate to the task. Fundamentally, the requirement is for all departments and agencies to be interconnected via a telecommunications network of sufficient bandwidth that employs an architecture and technology enabling scalability and flexibility for future growth in addition to reliability.

A network of appropriate design is then capable of carrying voice (eg. between PABXs), video, data (eg. for file transfer, e-mail) and multimedia, provides interconnection points for various department/agency LANs and WANs, and particularly enables interconnection to public Internet services. Within the government confines, it is also exploited to provide an Intranet and together with 'firewalls', offer a high level of security. Public Key technology ensures the integrity of specific service transactions by providing irrefutable identification of originators, protection against tampering and secure transmission only to required recipients.

Development Status

The Federal Government has declared a policy of establishing a Government-wide Intranet for secure online communication by the end of 1998 and delivering all appropriate Commonwealth services electronically on the Internet by 2001. Furthermore, electronic signatures to be used within government are also to be used for the secure exchange of information between industry, businesses and by consumers. All States and Territories are currently in various stages of deploying similar homogeneous networks.

Effective Use

In this instance, no differentiation is made between the users as public servants and the content/service providers as the departments and agencies. Refer to Table 5.5.

Table 5.5: Measurement of Effective Use: From Viewpoint of Users (Public Servants) and Content/Service Providers (Dep'ts/Agencies)

Indicator	Trial Measures	Available Data
<i>Usefulness (in meeting needs):</i> - Quality - Timeliness - Trust	<ul style="list-style-type: none"> • Satisfaction with relevance/accuracy of data • Speed and reliability of message transfer (incl. time to resolve a routine administrative matter) • Security/confidentiality of communications 	
<i>Affordability of service (incl. cost effectiveness)</i>	<ul style="list-style-type: none"> • Cost of provision of services • Reduction in amount of physical mail, travel expenditure (particularly due to online substitution) 	
<i>Ease of Use:</i> - Physical Accessibility - Ability to use interface - Social/organisational preparedness to use	<ul style="list-style-type: none"> • Ability to be interconnected with all other Dept's and Agencies • Unambiguity of operational steps • Degree and quality of training provided 	

Illustrative examples

As part of the Prime Minister's 'Investing for Growth' statement, creation of a Whole-of-Government Secure Intranet was announced in December 1997. Operating as part of *Fedlink*, the Department of Defence will be the lead agency for the initial infrastructure of the Federal Government's Intranet whilst the Department of Primary Industries and Energy will lead the applications phase.

Within Victoria, basic telecommunications infrastructure is being delivered by AAPT under the project title of VicOne. Various departmental WANs and LANs are then being interconnected and a Government Intranet established. Prior to these developments, VGEMS constituted the original electronic messaging platform.

Similar initiatives exist in the other States and Territories.

Application 3: Whole-of- Government Information Locator

The magnitude and complexity of the various governments within Australia, coupled with a maze of cross-jurisdictional responsibilities, poses a daunting challenge to business users and consumers making enquiries. With the advent of the Internet, departments and agencies within the various governments have established individual 'home pages' on the World Wide Web, typically involving tree/branch structures leading to repository information. An increasing number of such home pages also include individual search capabilities. However, an inquirer may not be aware of which level of government or which department or agency is appropriate to provide the required information or facilitate the required transaction. Furthermore, more than one government service provider may be involved in resolving particular matters.

The first solution has been to institute a 'Single Point of Entry' that enables an inquirer to gain access to all service providers within all governments from the one Internet address. The second solution has been to equip the above with an intelligent or adaptive search capability that enables an inquirer to directly find the correct Internet page of the relevant service provider. The addition of a whole-of-government information locator requires all Federal and State departments and agencies to agree on a common navigation framework to access their information.

Development Status

The Search Engine Working Group of the Commonwealth/State Navigation Working Party has recommended the creation of a whole-of-government search capability underpinned by a common regime of 'metadata' for indexing and structuring of information.

Effective Use

Refer to Tables 5.6 and 5.7.

Table 5.6: Measurement of Effective Use: From Viewpoints of Business Users and Consumers

Indicator	Trial Measure	Available Data
<i>Usefulness (in meeting needs):</i> - Quality - Timeliness - Trust	<ul style="list-style-type: none"> • Satisfaction with relevance of data • Ability to obtain information required on the first attempt, during any time of day or night. • Reliability/accuracy of information obtained; repeatability of same information during subsequent attempts 	
<i>Affordability of service (incl. cost effectiveness)</i>	<ul style="list-style-type: none"> • Cost of service compared to alternative service delivery means 	
<i>Ease of Use:</i> - Physical Accessibility, Comfort - Ability to use interface - Social/organisational preparedness to use	<ul style="list-style-type: none"> • Location of service terminal/interface in relation to demand • Ability of service to be integrated with ESD channels (resulting in a 'one-stop-shop') • Unambiguity of operational steps • Preparedness to use compared to an alternative service 	

Table 5.7: Measurement of Effective Use: From Viewpoint of Content Providers (Government Departments and Agencies)

Indicator	Trial Measure	Available Data
<i>Improved productivity/leverage</i>	<ul style="list-style-type: none"> • Savings in provision of conventional query services (of information location type) • Response time to complete transaction 	
<i>Improved range of services</i>	<ul style="list-style-type: none"> • Number of indexed dept's/agencies 	
<i>Increased market access</i>	<ul style="list-style-type: none"> • Growth in number of search requests; number of repeat attempts to source correct information 	

Illustrative examples

The Australian Commonwealth Government Entry Point (www.fed.gov.au) facilitates a seamless service delivery interface to a wider range of Commonwealth Government information and specialist services such as Centrelink and business services. A critically important functionality is that of a keyword search capability (GoFind), together with subject entry points and access to the Government Online Directory (GOLD).

The Australian Commonwealth Government Entry Point will ultimately provide the principal source of information for the Commonwealth Information Centre (CIC). The CIC will use the Internet to link to established client-focussed service delivery channels, and online catalogues of government information and services. It is planned for an advanced search engine technology within the CIC to ensure that information can be readily accessed across agencies via the Internet, by telephone, fax and written submission.

5.5 Change Issues

It is considered important to understand the change or development issues that need to be addressed in order that the various stakeholders may reach appropriate levels of access, use and effective use. These issues are identified and discussed, along with their status and how progress on them can be monitored. Refer to Table 5.8.

The key change issues are examined according to whether they relate to:

- ◆ Content/service providers
- ◆ Users
- ◆ Service/communications provision
- ◆ Policy/Regulatory requirements

Table 5.8: Change Issues

Issue	Relevant Applications	Nature of Issue	Status	Desirable Actions/ Monitoring
<p>1. Related to content service providers: (<i>Organisational Capability</i>) Avoidance of multiple or disparate entry points across and within various jurisdictions</p> <p>(<i>Organisational Capability</i>) Ability to incorporate online services with delivery via multiple channels</p>	<p>Electronic Service Delivery; Information Locator; Inter & Intra Dept/Agency Communications</p> <p>Electronic Service Delivery; Information Locator</p>	<p>Users unable to settle multiple queries or transactions within the one session and/or via the one interface system within the one or across different jurisdictions.</p> <p>Need for integration of online service delivery with organisation-wide resource plans that together facilitate multi-channel delivery.</p>	<p>Early approaches to 'single window' development have not fully matured at the Federal and State levels, with possible evolution towards 'channel' and/or 'life event' approaches now being demonstrated. However, local government is currently severely under-represented.</p> <p>Some attempts have been made to reinforce requirements through appropriate management accountabilities.</p>	<p>Increased resources provided to implementation across departments and agencies; tighter implementation timetables; improved coordination within and between various government levels; greater strategic emphasis on local government. Requirement for framework of common data elements across jurisdictions.</p> <p>Provision of increased resources; appropriate recognition in organisation resource plans; analysis of user needs pertinent to different channels.</p>
<p>2. Related to users: (<i>Awareness</i>) Promotion of availability of services to business users and consumers and the value arising</p>	<p>Electronic Service Delivery; Information Locator</p>	<p>Awareness of:</p> <ul style="list-style-type: none"> • Online services generally • How to use the services • Usefulness of particular application areas 	<p>Content Providers and governments are probably not overly concerned to date whilst new services are being trialed/deployed and organisational processes bedded down.</p>	<p>Promotion campaign in conjunction with release of new government services; positive incentives to utilize online service (eg. discounts, bundled deals) in preference to physical mode.</p>

Issue	Relevant Applications	Nature of Issue	Status	Desirable Actions/ Monitoring
<p>2. Related to users: (cont) <i>(Access and Equity)</i> Approaches to offering same degree of access and quality of service regardless of customer type and location.</p>	Electronic Service Delivery; Information Locator	Users who are elderly, disabled and/or live in remote locations can be disadvantaged by their inability to access kiosks or Internet-based services.	Where kiosks exist, they are being progressively extended to new sites. Certain governments are deploying or sponsoring the deployment of dedicated network infrastructure.	Availability of adequate infrastructure (communications capacity & connectivity, interface equipment) for all service delivery channels and users, particularly in non-metropolitan locations.
<p>3. Related to service/communications provision <i>(Infrastructure availability: network & terminal)</i> User-unfriendliness of certain systems</p> <p><i>(Appropriateness/ useability)</i> Availability of suitable enabling equipment (kiosks, PCs) to all types of users regardless of location</p>	Electronic Service Delivery; Information Locator Electronic Service Delivery; Information Locator; Inter & Intra Dept/Agency Communications	Navigational and design difficulties can lead to ineffective use (eg. circuitous IVR paths; ambiguous instructions; clumsy interface design) Users who are elderly, disabled and/or live in remote locations can be disadvantaged by their inability to access service delivery equipment.	Not widely appreciated while take-up level of online services is low. Service/Communications Providers, Governments are not overly concerned to date due to their focus on steadily ramping up access capability and diversity of services offered.	Involvement of users in initial planning and design phase; execution of user satisfaction surveys and application of conclusions. Retention of quality face-to-face and remote (call centre) customer service personnel as alternative; extension of public Internet access beyond local libraries; greater deployment of kiosks.
<p>4. Policy/Regulatory <i>(Consumer protection)</i> Legal liability for validity or confidentiality of information/transaction.</p>	Electronic Service Delivery	Has potential to become an issue when ESD is effected via a third party such as a private service provider (particularly for kiosk provision and operation); linked to issues of trust and privacy.	Not widely appreciated while take-up level of online services is low.	Appropriate disclaimer clauses are generally brought to the attention of users; system design may be adopted that ensures no data is locally stored, appropriate encryption is employed.