

1. THE APPROACH AND KEY PROCESS CONCLUSIONS

Australian governments and industry have a major commitment to the use of online services. Much of what is happening is, however, still exploratory. How can we understand and share this experience? What assessment can we make of the effectiveness of strategies to promote the use of these services? What gaps and needs for action can be observed?

This report examines the feasibility of monitoring Australia's progress towards effective use of online services, to assist in answering these questions.¹

A prototype of an ongoing structure for acquiring and presenting information, across a number of key sectors - government services, business, education, health, residential and groups with special needs - is presented. This prototype is incomplete in many respects, largely due to the constraints of project resources and the ready availability of information. It is intended to be a basis for a product which might be developed through processes of refinement and simplification suggested below.

The approach taken in the feasibility study is outlined in the following sections with key conclusions about the development of an ongoing process.

1.1 Objectives of a Monitoring Process

Initially the project was conceived as the development of a "report card" on Australia's progress towards effective use of online services. The term "report card" has negative connotations in various sectors, particularly in the context of national-state relationships, and its use has gradually been reduced. It also suggested a critical appraisal of the state of development, against some identified standards or expectations, or even state to state. In contrast, the value of a monitoring process has increasingly been seen in its contribution to development, the engendering of a learning process about the use of online services.

The objectives of a monitoring approach may be to:

- ◆ provide a comprehensive map of the state of development in Australia,
- ◆ compare and benchmark against international developments, or
- ◆ chart paths and stages towards desirable outcomes.

While all of these objectives are seen as relevant, the first two have inherent difficulties in establishing stable bases of comparison over time and context. The latter has been emphasised in consultations, leading to an intended focus on identifying and monitoring:

- ◆ change issues and guidelines for strategic approaches to "effective use",
- ◆ primary indicators of effective use to monitor these approaches over time, and
- ◆ models and approaches, as guides for general improvement.

Consultations with the funding States and Federal agencies have indicated that a monitoring process can contribute directly to their shaping of evaluative frameworks for their online strategies.

¹ This project arose as a recommendation from the CIRCIT Policy Forum in November 1997 on *Effective Use of Online Services: How Can Government, Industry, Business and Community Collaborate?* It was supported by the National Office for the Information Economy; the State Governments of Queensland, NSW, Victoria, South Australia and Western Australia; the Australian Telecommunications Users Group (ATUG), the Australian Information Industry Association, and Nortel Australia.

Conclusion 1: Monitoring process as a developmental, evaluative activity

An ongoing monitoring process should emphasise developmental aspects, rather than critical appraisal.

A primary contribution of a monitoring process should be to support the evaluation of national and state strategies for development of online services.

1.2 Australia's Strategic Objectives

A desirable starting point for monitoring the outcomes of strategies is to utilise understood and accepted statements of strategic objectives. Australia has had a number of vehicles at the national level for the development, expression and implementation of online, interactive services development in recent years.² For various reasons they have either not set objectives or these objectives have not been sufficiently supported to be taken as bases for assessment.

This discontinuity has been associated with a range of structural changes that have occurred as a central coordinating focus on online services and the information economy has tended to develop in both federal and state governments.

An examination of statements of vision and objectives from various Australian sources led to the following as a point of reference for this project:

The use of online services in Australia should

- ◆ extend the range and accessibility of services available to citizens,
- ◆ improve the efficiency of governments, businesses and other organisations, and
- ◆ enhance Australia's international competitiveness

in order to improve the social and economic well-being of its citizens.

More explicit, and best described as instrumental or intermediate, objectives can be found among agencies in different sectors; one being the DIST objective of 90% of businesses in targeted industries being online in five years, another being the reasonably general objective of all government departments and agencies having a web presence and the capacity to conduct some/all of their transactions online.

There are arguments for and against explicit policy objectives. There is probably no argument, however, that if we are to seek to monitor progress on strategies we wish to do more than gather all the interesting information that is possible. There is a clear task to agree upon a framework of objectives that should be monitored.

Coincident with the production of this report, the Ministerial Council for the Information Economy has released a statement *Towards an Australian Strategy for the Information Economy (July 1998)* as a basis for consultation. This includes a mission statement:

To ensure that the lives and work of Australians are enriched, jobs are created, and the national wealth is enhanced, through the participation of all Australians in the information economy

values and vision statements, and statements of strategic priorities, objectives and proposed actions.

It provides a source of relatively detailed objectives, such as:

- ◆ making high communication bandwidth available at low cost,

² A significant analysis of development requirements was carried out by the Broadband Services Expert Group (BSEG) in 1994, and succeeded by the National Information Services Council (NISC), the Information Policy Advisory Council (IPAC), and most recently the formation of the National Office for the Information Economy (NOIE).

- ◆ access by all Australians to this capability wherever they live or carry on business,
- ◆ raising awareness of online business systems, so that by the year 2000 every Australian business is aware of the benefits of doing business online,
- ◆ delivering all appropriate government services online by 2001, and
- ◆ students leaving Australian skills with the online skills and knowledge they need to benefit from employment and other online opportunities.

Through this structure a set of long- and medium-term national objectives is becoming apparent. The integration of this set with the framework of this report is a clear next stage of development.

It has been made clear to us in many discussions that focusing on online services - the technology enablers of activities - is unduly reductionist. Organisational strategists and managers are recognising that online services provide one channel for delivery of, or access to, other "consumable" products and services. The use of online services needs to be examined in association with other more traditional physical or electronic channels, in a context of broad business, economic and social objectives.

Conclusion 2: Relationship of a Monitoring Process to National Objectives

A monitoring process needs to be related to a concise statement of a national strategy for online services development. This strategy should have

- ◆ a broad vision of the use of online services
- ◆ a strong set of "intermediate objectives" which are monitorable and which recognise
 - online services as one of a number of delivery/access channels,
 - the need for cooperative endeavour between government at all levels, industry, business and community to build a national base of expertise, and
 - the need for commitment to continuity of national purpose and implementation approaches.

The consultation document *Towards an Australian Strategy for the Information Economy* now serves as the basis for this development.

1.3 Framing the Search for Information

A significant part of this feasibility study has been the development of a framework for identifying potentially useful information. This framework is outlined in the section *Framework for Monitoring Access, Use and Effective Use of Online Services*. As part of further development it needs to be run against agreed statements of national objectives as suggested above.

We have:

- ◆ Adopted a broad definition of online services, which is seen to include email and World Wide Web, EFTPOS, IVR, videoconferencing and other forms. While much of the focus of the report, and the available data, is around the Internet, an ongoing framework should be broader than this to recognise the changing profile of services and their use.
- ◆ Distinguished between access, use and effective use as aspects to measure. While the extent of access to, and use of, online services are clearly relevant objectives, they are also instrumental or enabling. The concept of "effective use" has been adopted to recognise that sustainable value to users, content service providers (government agencies, business, schools, etc.) and communications providers is necessary.
- ◆ Sought available information on access, use and effective use within sectors. In most sectors we have identified key areas of application of online services as the basis for seeking evidence of effective use.
- ◆ Identified primary indicators of effective use as:

From the point of view of

Users	Usefulness (meets needs) Affordability Ease of use
Content service providers	Achievement of business/organisational strategy through, e.g., Increased productivity Increased range of services Increased market access
Communications service providers	Return on investment Extension of range and quality of service Market access/market share

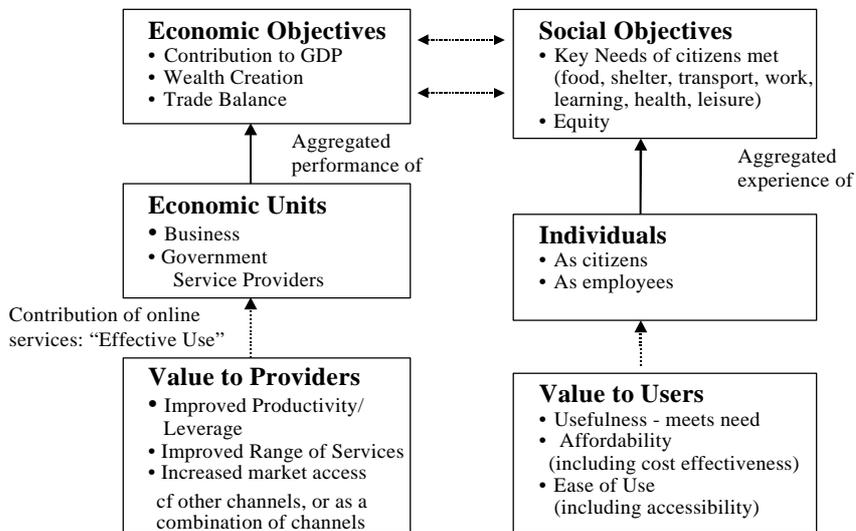
Our primary focus has been on the consideration of the points of view of the first two groups of stakeholders, with the approach to addressing the questions about value to communications service providers an outstanding matter.

- ◆ Emphasised the need to focus on "change issues" – approaches to barriers - for the achievement of effective use. These change issues may be the focus of intermediate policy objectives, and hence their identification and clarification is highly desirable.
- ◆ Sought illustrative examples in application areas where there is a focus on effective use, or on particular change issues.

Overall, we have found relatively few attempts to assess aspects of effective use; the focus being at this stage more on the preconditions of access and use. We have, however, found a general recognition of the appropriateness of an objective of effective use, tempered only by some observations that political and other strategic imperatives to be online may override consideration of the issues of value.

A focus on effective use is one way of beginning to understand the relationship between the use of online services and broader objectives. The following diagram illustrates conceptually how the "value to content service providers" and "value to users" dimensions may relate to the broader economic and social objectives that the use of online services may be intended to serve.

Figure 1.1: Relationship between Macro Objectives and "Effective Use"

**Conclusion 3; Effective use as a long term objective; change issues as a primary focus**

An objective of effective use of online services should be an integral part of national, state, and organisational strategies. It is, however, a long term objective. Intermediate, more monitorable, policy objectives are likely to be expressed in terms of access or use; their expression may be influenced by recognising the nature of longer-term objectives.

A primary focus of any policy review process should be on the informed identification and analysis of the change issues to be resolved to achieve effective use. These change issues should also form a basis for identifying intermediate policy objectives.

1.4 Information about Australian Developments

At the time of commencing this project (January 1998) we were not fully aware of the activities of other groups pursuing similar interests in parallel. These included, particularly, the DIST Steering Group on Electronic Commerce Statistics with its focus on the business sector; the National Telehealth Committee of Australian Health and Medical Advisory Council (AHMAC) which was developing a point of view on evaluation and monitoring of telehealth developments; and the increasing emphasis on the demand side of the information industry by the Australian Bureau of Statistics.

We have sought to associate with these activities in the conduct of this feasibility study and clearly recognise their relevance to further developments.

1.4.1 Sources of Information/Evidence

As part of the project we conducted a survey of the range of Australian and international data sources, which is contained in the sections *Australian Data Sources* and *International Data Sources*. In examining potential sources of information we distinguished a variety of ways in which data may be obtained. These sources include:

a. Services related

An increasing amount of data is available from the systems underlying the services themselves; e.g., the kinds of transactions, time of day, etc., for government electronic service delivery, or usage statistics associated with websites. While these are clearly useful sources of information, there needs to be greater clarification of the meaning of certain statistics (e.g., number of hits or pages opened on websites).

b. Studies

There are a variety of studies from which information can be obtained, and which have characteristic differences. They include:

Samples of total populations:

The most broadly based and regular are those conducted by the ABS (householder and small business) and Yellow Pages (small and medium business). Related information is obtained through omnibus surveys by organisations such as Roy Morgan and A.C. Nielsen.

Online surveys:

Organisations such as [www.consult](http://www.consult.com.au) and APT Strategies specialise in online surveys of users of the Internet. These provide valuable information about online users, but inherently provide a skewed sample of the total population of users and non-users.

Qualitative research/case studies:

More intensive studies of particular groups, based on interviews or observation, are conducted by a number of organisations such as the Telecommunications Needs Research Group at Monash University and CIRCIT at RMIT University.

c. Panels

A number of questions will be best addressed by the views of expert panels. These will generally need to be formed for the purpose.

In practice a mix of these approaches will be desirable. Linkages between them will provide some powerful sources of information. Measures of access and use are likely to be obtained from population surveys and services-related data gathering measures. The issues of value in effective use are likely to be best considered through qualitative, case study and panel approaches.

1.4.2 Issues of Comparability/Integration

In seeking to obtain information from a number of different sources some clear issues of comparability of measures arise.

Taking the example of residential use of the Internet:

- ◆ is the unit of measure of access (availability) to be households or individuals?
- ◆ is the access to be within the home or any location (including work)?

- ◆ is use to be considered for all individuals, or identified age groups (e.g., over 5, over 18)?
- ◆ is use by individuals to have components of frequency (e.g., daily, weekly, monthly) or recency (e.g., within the last week, month, year)?

It is from the approach to data collection and to questions such as these that significantly different statistics emerge. Specifically, the ABS has estimated that as at February 1998 there were 3.03m individual users of the Internet; www.consult provides an estimate of 1.6m³. This is a huge discrepancy which may be explained by different sampling techniques and hence basis of extrapolation and definitions of "usage".

A measure of use in, say, the last week would be likely to significantly reduce both these figures.

These contrasts illustrate the difficulty of combining and integrating data from different sources. There is much data we have chosen not to present because of issues of this nature, particularly in the international domain. Is it, for instance, useful to compare Australian statistics of numbers of individuals using the Internet for online banking in the last year (0.3%) with available international data on time spent on the Internet on online banking (2.0% US)?

It is desirable that common measures and definitions are established; a task which ABS has been contributing to in OECD considerations and is well suited to conduct.

1.4.3 Data Availability

We have only used in this report data available from public sources, or proprietary data which has been made available. There is a considerable amount of proprietary data being collected, but the pursuit of such data would require greater clarity of requirements.

Conclusion 4: Australian Data Sources

While there is a limited amount of data available in the form sought to populate the frameworks in this report (access and use in the residential and business sectors being best served), there is a significant network of data gathering and research organisations who are already gathering information, are prepared to extend their current focus, or who could contribute special expertise to assist ongoing monitoring.

Some relevant data could be available reasonably simply through building data-capturing procedures into systems design.

The Australian Bureau of Statistics has a key role to play in further developing its established focus on usage statistics. It should continue its consultative process to establish commonly recognised measures.

1.5 International Approaches and Data Sources

In examining international approaches, we have found few instances of attempted systematic monitoring of objectives. We have assembled elements of data from a wide range of different sources.

Australia has the opportunity to demonstrate a leading position in understanding and monitoring the outcomes of policy initiatives and other market-led developments.

³ ABS estimates from Use of the Internet by Householders (ABS, February 1998), p 3; www.consult estimate reported in *Stats. Electronic commerce in Australia* (DIST, 1998), p ii.

An important point of reference has been the project conducted by Spectrum Strategy Consultants for the UK Department of Trade and Industry⁴. Focusing on the use of information and communication technologies by business (particularly small and medium), this study is now in its third year. Initially based on secondary sources, it now largely utilises a primary survey conducted by the National Opinion Poll of businesses in the UK, US, Japan, Germany, and France. While we have endeavoured to take a broad cross-sectoral approach, there are important commonalities with the Spectrum project; particularly in their recognition of multiple paths to the "information society", their increasing focus on effective use and barrier or change issues, and their integration of various data sources.

The Australian Bureau of Statistics is actively involved in promoting the gathering of comparable international statistics through the OECD [Information, Computer and Communications Policy \(ICCP\) Committee](#). From this engagement they have confirmed the dearth of comparative points of reference.

Conclusion 5: International links

Comparison of experience with other countries is an underlying requirement for effective monitoring of strategies. To this end:

- ◆ Close relationships should be sought with the UK Department of Trade and Industry/Spectrum project as a source of interaction about the issues in monitoring progress and for the development of comparable measures in the business sector. (The substantial outcomes from continuity and progressive development of the UK study should be noted and the merit of applying similar endeavour in Australia recognised.)
- ◆ The active involvement of the Australian Bureau of Statistics in the OECD Information, Computer and Communications Policy (ICCP) Committee should be recognised and strongly supported. The International Telecommunications Union (ITU) is a further source of international comparative material.
- ◆ Other possible sources of collaborative benchmarking should be investigated further; including the G7 Government Online projects, and possible relationships with Industry and Statistics Canada, Hong Kong, Singapore and some particular states in the USA such as North Carolina.

1.6 Review and Development of this Approach

We have sought confirmation of this approach through ongoing consultation with funders and other interested parties, including presentations at the May ATUG Conference and other fora⁵. We have sought to develop panels of experts to review each sector, and conducted workshops and seminars in most sectors. The significant interest shown suggests the merit of further development of this process.

However, there have been limitations on cooperation in obtaining information. Some of these are time limitations of busy people; others are more fundamental. It is apparent that an ongoing process will need to have characteristics of:

⁴ *Moving into the Information Society: An International Benchmarking Study* (1998), Spectrum Strategy Consultants. Report for the Department of Trade and Industry, UK

⁵ Papers on the approach and underlying issues are to be presented at the Singapore National Computer Board/IQPC *Government Online* Conference (August 1998) and, possibly, the Pacific Telecommunications Council Conference (January 1999).

◆ Legitimacy

Within a number of sectors, while interest is clear, the view has been expressed that the provision of detailed information is dependent on the acceptance of the bona fides of the report as a legitimate vehicle for review of strategies.

For government-related activities this legitimacy may come from endorsement by the Ministerial Council for the Information Economy and the Online Council. While possibly less important in a business context, ongoing association of bodies such as the Business Council, ACSI, the AEBN, ATUG, and the AIIA will be important.

◆ Ownership

Even if conducted under the auspices or endorsement of key bodies, the monitoring process is unlikely to be successful unless there is an appropriate degree of ownership within the sectors. Bodies such as the Online Council Officials Group, the EdNA Reference Committee, and the National Telehealth Committee provide important channels for this ownership to be realised.

The process of establishing ownership will need to deal with some tension that appears to exist between central agencies promoting online strategies and service agencies in the same jurisdiction, and in a somewhat competitive form between different jurisdictions. The monitoring process has been positioned as a co-operative, developmental activity, which will need continual reinforcing and interpreting.

◆ Integration

Contributions of information are also unlikely to be readily forthcoming if they impose additional resource requirements. The process of development and maintenance will need to be closely integrated with existing, or desirable new, initiatives.

◆ Critical Review

With this ownership and integration could come, however, limitations on the maintenance of a critical reflection of developments. This should be nurtured through review fora and other processes.

Conclusion 6: Developing an ongoing process

An ongoing monitoring process should be developed and owned by NOIE and supported by the Ministerial Council for the Information Economy and the Online Council. It should be closely associated with the development of the National Strategy for the Information Economy.

Bodies such as the following should be approached to develop and oversee monitoring activities in specific sectors:

Government	Online Council Officials Group
Business	DIST Steering Committee on Electronic Commerce Statistics
Education	DEETYA/ EdNA Reference Committee and AVCC
Health	National Telehealth Committee of AHMAC
Residential	ABS - with an advisory committee of consumer and research organisations
Special Needs	
Non-metropolitan	DPIE, in association with RTIF, Farmwide and other rural Organisations
People with disabilities	Possibly form around the NOIE program on Online Access for People With Disabilities

Consideration should be given to inclusion of other sectors; in particular a focus on cultural and other information and entertainment applications.

Individual States have their own potential use of a monitoring process for evaluation and development of strategies, as well as being important contributors to a national monitoring process. Common frameworks and approaches linking state and national developments are likely to be of value.