TOWARDS AN ELECTRONIC RECORDS MANAGEMENT PROGRAM: THE UNIVERSITY OF MELBOURNE

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Progressive devolution of organisational responsibilities at the University of Melbourne, combined with a distributed computing environment, has resulted in a number of information technology and electronic records issues that are explored in this article. Records Services staff at the University have adopted a number of strategies to position themselves to take responsibility for the establishment of an electronic records management program and are now proceeding towards the development of electronic records management policy guidelines and standards for the University as a whole.

Introduction

During the last two years a project has been underway at the University of Melbourne to develop an electronic records management program. In undertaking this project Records Services has utilised elements integral to the organisational and the information technology environments. The strength of the existing records management program has been built upon, in particular, its broad university role and large client base. The article outlines this context and describes the approaches and strategies being used to develop an electronic records program. The prime focus is on strategies to obtain support and commitment from senior management for the development and implementation of an ongoing electronic records management program rather than an ad hoc and fragmented approach. Success and strength will lie in collaboration with senior management and Information Technology Services (ITS).

Organisational Environment

There are approximately 130 work units within the University's administration on Parkville campus. Academic administration is conducted by twelve faculties and approximately seventy academic departments. There are 24 572 equivalent full time students, 1995 academic staff members and 2 485 non-academic staff members (main campus). In 1989 the University amalgamated with the Melbourne College of Advanced Education and in the early 1990s entered into affiliation agreements with Hawthorn Institute of Education, Victorian College of the Arts, and Victorian College of Agriculture and Horticulture.

Parallel with this expansion there has been a progressive devolution of responsibilities to faculties and academic departments. Devolution combined with a distributed computing environment has resulted in a number of information technology and electronic records issues that are explored in this article. Decisions are increasingly made at lower organisational levels and it has become necessary to actively ensure that records are retained of the basis upon which a decision was made. It can no longer be assumed that records are forwarded to Central Records or that they are in a paper format nor that work groups grasp records issues.

The University's computing network plays an important role in the efficient functioning of a devolved structure. The ITS Strategic Plan in 1989 proposed that by 1993 all academic and administrative staff would have an appropriate workstation, linked to other workstations, to large time shared computers and to computers and workstations throughout the academic community in Australia and the world via AARNET. The achievement of this objective has resulted in the

prolific use of word processing and electronic mail and numerous other applications. There are approximately 2000 mail recipients on Banyan (IBM-PC) and 1300 Quick mail (MAC) users.

A recent survey of electronic mail and word processing usage found that 'Corporate records are increasingly being created and maintained electronically within the context of departmental activities that are outside the control of central administration. Compounding the problem is the number of users with little or no records management or computer training who are responsible for those records.'[1]

A precondition of effective corporate recordkeeping is aware and knowledgeable end-users. But how knowledgeable are end-users in paper-based records practices let alone electronic records practices? Among middle and senior management there has been a steadily increasing awareness in recent years of the concept of the corporate memory promoted for example by a paper on the topic presented to middle managers at a Heads of Sections meeting by the Manager Records Services. Developing a culture of corporate recordkeeping is an essential task particularly when academic and administrative staff in faculties and academic departments are committed to the work unit rather than the organisation as a whole. It is even more essential when the University is faced with a rapid increase and reliance on information technology.

Records Management Environment

The records management program commenced in 1978 following the appointment of a Records Management Officer and has expanded since 1990 with two additional professional staff appointments. The program covers records creation, maintenance, control and disposition. It utilises a proactive approach to records management that includes the following elements:

- policy development and implementation for both paper and electronic records;
- design, implementation, and operation of records systems;
- intermediate storage;
- records disposal program;
- training programs for staff in faculties, academic and administrative departments;
- indexing, storage and retrieval of University minutes, agenda and papers; and
- micrographic program.

Primarily, the University has adopted a decentralised recordkeeping system with centralised control. Each faculty maintains and operates a Faculty Records System. Faculty General Managers are responsible for recordkeeping within the Faculty, as well as the day-to-day operation of their system. The Manager Records Services has overall

responsibility for the standards of records management practice employed within the University.

The University's commitment to active records management has led to an awareness of the needs and benefits of paper-based records systems. A current objective of Records Services is to extend this to electronic recordkeeping systems. Within a devolved environment the line manager, in consultation with Records Services, has responsibility for managing the recordkeeping process. The challenge therefore is to ensure that records, both paper and electronic, are retained of the basis upon which a decision was made and to establish the appropriate policies, procedures, guidelines, standards, and disposal authorities.

Information Technology Environment

Development

The development of computing has occurred rapidly since the late 1980s when resources were committed to utilising Information Technology across the University replacing large centralised systems, such as WORD 11, a dedicated word processing facility to which there was limited access. In 1988 the ITS department was established to provide the support infrastructure for the development of a distributed computing environment that characterises the University today.

A distributed computing environment means that most of the storage and computing resources are not under direct ITS control. Administrative data entry and processing are performed by all departments, using their own systems as well as the large ITS administrative systems. Departments are responsible for the management and development of computing resources. With the large numbers of departmental systems and servers now installed, information assets are widely distributed with their security and availability subject to local practices and procedures rather than to those historically applied under central management.

Influences, such as an increased requirement for timely information by federal and state agencies and by faculties and departments within the University, have resulted in a changed approach to the development of administrative systems. Pressure from these sectors has been a catalyst for the development of on-line database systems to support a number of administrative functions such as the student records system (MERLIN) and the Personnel and Payroll System (GENESYS) as well as in the areas of teaching and research.

Information Technology Services Functions and Support

ITS is resourced and responsible for providing advisory and training services in support of local computing. Information technology development is assisted within ITS through groups such as:

- the Computer Purchasing Advisory Group, a central purchasing group which assesses and approves any purchase of hardware, software and related items, to ensure that acquisitions conform with University requirements, including those relating to occupational health, safety issues and software copyright; and
- the Information Technology Policy Advisory Committee (ITPAC), a relatively new body which advises the University on IT policy in the areas of standards, services, implementation of University-wide computing facilities and rules concerning conduct and usage; it is expected that ITPAC will be involved in the development of an electronic records policy.

ITS also provide facilities such as the 'Data Store', described by ITS as an inexpensive repository for data that can be accessed anywhere on the University network. The aim of the datastore is to keep any data that is often used on disc, which enables fast access, while keeping rarely used data on tape, which is inexpensive but slower to access. Charging departments for the use of this facility prevents the datastore from being used only as an extension of local memory.

The responsibility for documenting contents of tapes rests with the data owner, i.e. the creator, rather than ITS which has the physical custody. ITS does however record account name, account number, description (e.g. Buildings Main Mast) and modify date. The obvious outcome of such an approach is an inability to identify the contents of tapes in the future.

The datastore is in the pilot stage. Records Services has raised a number of issues concerning the datastore facility, including documentation of the holdings, distinction between personal and corporate records, appraisal and disposal of records, ownership and responsibility i.e. where does responsibility reside — ITS, data owner, Records Services? Discussions are underway between ITS, Records Services and senior management in relation to this facility. It is not the facility itself or the concept that is being questioned but the need to identify the electronic records in the datastore, in particular the need to identify records of continuing value. Fundamental to the issues is the differing use of the word 'archive' by ITS and records management professionals. Discussions are currently being held with ITS to provide the archival/recordkeeping perspective on management alternatives and parameters of responsibility.

Approaches and Strategies

The first steps towards the development of the program involved reading and analysis of relevant literature from the fields of records management, archives and information technology. In addition, early consultation with ITS gained initial support and a staff member in ITS

assisted in the development of a project outline to investigate issues involved in the management of electronic records. This project is now being followed through by Records Services.

Networking

Partly due to the 'consulting' approach and professional operation of the existing records management program and the support of senior management, Records Services staff are well regarded within the University informally and formally. It has been possible to arrange regular meetings with the Registrar, Academic Registrar and the IT Registrar to discuss concerns relating to the management of electronic records, to raise issues to develop awareness and understanding of them and to educate those present in each other's aims. Such meetings have also assisted the development of proposals for new projects such as information flow analysis, electronic corporate registry, imaging, and the formal development of an electronic records policy.

Records Services had previously worked with ITS staff in developing paper-based record systems. During these projects mutual understanding was developed. This has been further advanced through membership of a working party for the design of a student administration system, evaluation of automated recordkeeping systems, and the development, implementation and maintenance of electronic mailing lists for distribution of electronic circulars.

As a result of the 'distributed computing environment' Records Services has a more direct link to departments than ITS. A current user concern about word processing and email can be used as an entry point into electronic record management in response to the immediate demand/need. This is not perceived as an area of direct responsibility for ITS.

Issues Papers and Research Papers

The meetings with senior managers mentioned above have been strengthened by the presentation of brief issues papers providing records management and archives administration perspectives. These papers have outlined concerns that differ from those of IT specialists, but which, if not addressed, are to the detriment of the University especially in the area of accountability. The issues concerned are: the level of user education and the gap in knowledge between ITS and users; word processing and email usage, especially deletion and hoarding; inability to identify latest version; low level systems documentation particularly for systems not developed by ITS; physical custody and intellectual control; hardware environments and devolution; and the responsibilities of data users. Many of these issues are specifically related to the type of computing and organisational

environment that exists at the University of Melbourne and would not be applicable to all institutions.

Certain issues were identified early e.g. lack of information on what systems, or applications, exist within the University. ITS have knowledge of central administrative systems e.g. student administration, personnel and payroll, financial accounting, departmental accounting, alumni — systems designed or administered by ITS. However, in a distributed computing environment, there is little awareness of systems developed or implemented within a faculty, academic department or administrative department or section e.g. plans database in Property and Buildings and the Graduate Destination Survey in the Course and Careers Unit. This information must be documented in order to know what and where systems exist for appraisal and disposal purposes.

Similarly physical custody is not an issue in the sense that it is anticipated ITS will have physical custody, in the form of the datastore or equivalent, but intellectual control has subsequently become a primary concern — does it rest with ITS, the data owner, or Records Services? If ITS administers the datastore should it also have intellectual control over the contents in a similar way to which Records Services runs an Intermediate Records repository. The perspective of preservation over a period of time still has to be addressed.

From these issue papers came the idea for research papers. The research papers are essentially an extension of the issue papers focussing in detail on specific aspects. Two have been completed and distributed; one based on the definition and characteristics of a record in the electronic environment, and the other on corporate recordkeeping in an electronic environment. A third research paper on appraisal and disposal of electronic records is currently being written. They have been circulated to senior management, the Internal Auditor, University Librarian and University Solicitor to develop awareness, to continue the momentum of the electronic records project, and to develop the project into a significant area of our work for the benefit of the University.

ITS Strategic Plan, Principles and Defensive Strategies

Existing documentation within the University has provided support for this work, including the ITS Strategic Plan, IT Principles and the Defensive Computing Strategies. The Strategic Plan is proving to be valuable: the 1989 Plan included, in the area of administration, a commitment by ITS to improved access, communication, records management and reporting. With such common ground, it is anticipated that co-operation between ITS and Records Services in the development of an electronic records management program will be

facilitated by the inclusion of such aims as the basis for development of an electronic records policy in the next IT Strategic Plan. The use of such existing documentation in the University not only strengthens Records Services' position but also illustrates the contribution the area can make to the operation of the University. It is a matter of using existing strategies even if they were not designed with that issue in mind.

The IT Principles have provided a base from which to work, in particular the need for further defined or adopted IT standards for all information systems to ensure uniformity, compatibility and interoperability. The principles also provide for the adoption of standard methodologies for the development of all major information systems. In the technical note 'Defensive Computing Strategies for Desktop Computers and Local Area Networks' particular attention is devoted to archiving (in computing terms). It states that 'Archives should be documented — their long term nature means that the person who eventually has to restore the information to primary storage may well not be the person who created the archive.' As these strategies have been adopted by the University, they can be used as an entry point and strengthen our involvement.

The implementation of best practice in the development of an electronic records program is not all an uphill battle. There is common ground from which to work together. The use of such documentation in the issue papers, in one which was a joint paper by Records Services and ITS, has been useful in the development of the program in combination with other approaches and strategies.

Defining Roles and Responsibilities

The development of electronic records management in the University is authorised by the Strategic Plan of Academic Services. The Plan directs the Academic Services department, of which Records Services is part, to develop management policies and procedures for electronic records, imaging and an electronic registry. The Strategic Plan for Records Services emphasises the need to improve the management of electronic records as well as of paper-based records. This responsibility involves the conduct and implementation of projects involving the management of electronic records and also provides the scope for research on electronic records issues.

A strong commitment to electronic records management is reflected in the position descriptions and appraisal criteria for Records Services staff. The position description of Records Analyst for example contains a key responsibility to 'Undertake and contribute to electronic, archival and records management research projects'. This role is further reinforced in the staff development plans written as part

of the performance appraisal process, not only for the Records Analysts but also the Manager Records Services. This latter position is required to 'develop a draft electronic records management policy for the University encompassing creation, storage and access, appraisal and disposal of current and non-current electronic records'. In addition the appraisal of the position is measured against the development of strategies and potential workflow applications for the appropriate introduction of imaging technology.

Project work

As a basis for later policy work, a survey of selected areas within the University was planned to gather information on the current management of electronic records, and how electronic records are created, maintained and disposed of. This was to be followed by an issues paper, with the ultimate outcome of the project the development of a policy to provide guidelines and standards for improved practices in the management of electronic records from creation to disposition. A further intended outcome was to raise the level of awareness of the value of efficient and effective management of electronic records via brochures, IT Skills Course, and other appropriate training courses.

A survey form was developed for use by Records Services staff and a list of potential departments compiled. One large administrative department has already been surveyed, and it has now been decided to target specific areas with key functions, e.g. Student Administration and the Office for Research. The complexity of surveying and appraising electronic records has demonstrated the need to develop a priority list based on functions.

The pilot project, commenced in late 1992, was intended to obtain an overview of the types and functions of systems in operation, word processing and electronic mail usage and the relationship between paper and electronic records. The department chosen was Property and Buildings because:

- it was more appropriate to commence with an administrative department and three other administrative departments were in the process of undergoing significant technological change (the Academic Services department consists of twenty separate sections rather than one cohesive function);
- a disposal schedule for Property and Buildings needed to be written;
- the department as a whole, and in particular senior management, were very supportive of the project;
- the systems are developed and implemented by Property and Buildings; and

• rather than one complex system with many applications there is a multi-application system which assisted with the need to obtain experience and refine techniques before appraising a complex system such as the student administration system.

The pilot project consisted of survey, through demonstration and user interviews, and appraisal of fifteen systems covering a variety of functions, e.g. maintenance, space management, housing, building condition, and facilities hiring. Of these only one system, the plans database, was appraised as having continuing value. The remainder were of temporary value and of current administrative value. Associated issues arose concerning systems documentation, word processing and electronic mail practices. During the project managers were interviewed regarding current practices in the use and management of electronic mail and wordprocessing (on both IBM and Macintosh). This benefited the project and provided a basis for the development of guidelines and standards eagerly welcomed by the department, which had no documentation and little archiving of data.

Arising from this pilot project two further projects are planned:

1. The development of guidelines for documentation of electronic records of continuing value (if departments are data owners then they will need to maintain documentation); and

2. The development of guidelines for the creation and management of records created using word processing and electronic mail. The department is moving towards the concept of developing a central document store and requires advice on the movement of current records to non-current data storage and the disposal of temporary records. It is difficult to estimate the quantity but one smaller administrative department for example has 15 000 files on its file server.

A second project underway is the development of Imaging Guidelines for Research Applications. This project was initiated by a request to the Manager, Records Services from the Registrar (Information Technology) and the Director, Executive Services. The guidelines will be used for purchase criteria when proposals for applications are made. Draft guidelines state that any proposed purchase of imaging systems should be developed in conjunction with Records Services 'to ensure effective records management, storage and retrieval, appropriate document linkages, identify indexing or free text retrieval requirements, version control as required, and to facilitate long term access to records within an imaging system where required'. The intention of the guidelines is to avoid poor applications being established.

It was recommended that an imaging system be part of a networked system rather than stand alone, and be able to support a number of applications simultaneously so as to best exploit any records requirement in an integrated environment. The defensive computing strategies were incorporated into this document — that data owners must document the system as well as the applications used and any information that may be required in the future to access the system.

A third project of which stage one has been completed, involves a detailed analysis of the use of electronic mail and wordprocessing in a variety of areas. This project will result in the development of document naming standards and guidelines for the management of electronic documents. Possibilities exist for the implementation of these through user training, user interface and, with the assistance of IT, to capture documents or records considered to be of continuing value through interception via the network. The purpose of the survey mentioned earlier, was to analyse the use of wordprocessing and electronic mail to determine the extent and nature of its use for decision-making and to assess accountability requirements and current management practices. Interviews have been conducted with key personnel across the departments such as Vice-Chancellor, Deputy Vice-Chancellors' offices, Registrar's Office, Academic Registrar, Research contracts, Finance and Accounting, Personnel Services, Internal Audit, Solicitor's Office, Safety, Health and Risk Management.

The results of the interviews have been quite revealing. There are varying practices in the use and management of electronic mail and word processing; a lack of understanding of accountability, corporate records, formal and informal documents, and distinctions between records and information; replacement of paper memoranda with electronic mail; an absence of directory and folder naming standards hindering retrieval and access; a lack of version control; a lack of formal structures within electronic mail messages; and poor knowledge of electronic document management. The majority of those interviewed were unaware of the methods of managing electronic mail as an information tool, capabilities, structured directories, naming conventions and the relationships of electronic mail to the University's official records. All participants felt that guidelines for electronic mail and word processing management were essential.

Development of an Electronic Records Policy
The development of an electronic records policy will be the basis for the electronic records program. Development and implementation of standards and guidelines will then follow. It is imperative that Records Services alone not be responsible for the development of the policy, but that ITS and University Administration also be involved. Issues which

remain to be solved include: the creation of electronic records and what they are; what form standards should take; records ownership; privacy and access; and storage and records disposal.

Hopes, Plans and Dreams

To date the level of awareness amongst management has been raised, although there is still a long way to go. However, Records Services has established that this is a records management issue. What remains is the development of an electronic records policy and associated procedures, standards and guidelines — the hard work! It is all very well to undertake projects on the appraisal and disposal of electronic records but those systems identified as having continuing value need to be documented and transferred to ITS datastore and managed as a part of a whole process.

Yet there are already tangible achievements to build on, such as the appraisal of fifteen information systems, the development and distribution of questionnaires, a survey of electronic mail and word processing usage, issues and research papers, draft guidelines for imaging systems in administrative departments, the development of experience and knowledge amongst the staff of Records Services, and an increased awareness and interest amongst senior and middle management.

We are still in the process of developing an electronic records program and there are a number of issues to be resolved. There are many intersecting strands — appraisal and disposal, documentation standards, word processing and electronic mail usage, user education, imaging applications, electronic document management, identification of electronic recordkeeping systems, non-records and records. Developing support for an electronic records program is not easy. There are many factors to be considered and while the support and commitment are there from senior management and ITS, the challenge of developing policy, procedures, guidelines and standards remains.

ENDNOTES

1. John Enterkin, University of Melbourne, Interdepartmental E Mail & Word Processing Survey, November 1993.