

**ATTACHMENT A**

# **The University of Melbourne**

## **Information Management Plan 2006**

FINAL DRAFT 5 December 2005

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## **THE UNIVERSITY OF MELBOURNE INFORMATION MANAGEMENT PLAN 2006-2008**

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## **Context**

In the rapidly changing and internationally competitive landscape that is higher education today, knowledge has become a major organisational asset. Effective management of knowledge and information is a critical underpinning of organisational capability. Knowledge management's strength lies in its power to combine people, process, content and technology into a coherent approach to achieve strategic outcomes. Similarly, in the relentless tug-of-war between technological advancement and obsolescence, developments in information and communication technologies (ICT) continue to raise levels of achievement and expectation, in all fields and in most of the world. These technologies have become so pervasive that we no longer notice the degree to which they impact our professional and personal lives.

The University of Melbourne's vision uses a triple helix to define its character as one of the finest universities in the world; its three strands are knowledge creation (research), knowledge dissemination and synthesis (learning and teaching) and knowledge transfer.

Research relies increasingly on collaborating teams and networks, shared datasets and co-produced outcomes, often spanning national boundaries. At its foundation is the management, sharing and preservation of information using collaborative digital technologies.

While the University is firmly committed to the virtues of the on-campus experience, it will also be a place where learning communities embrace evolving technologies. Our libraries and information spaces will become vibrant 'learning hubs' where students can use scholarly resources in all forms, engage in collaboration, reflection and private study and seek professional advice and support. Virtual learning environments, online services and administrative functions will be available to our students anytime and anywhere.

Knowledge transfer, the third strand in Melbourne's vision, is about enriching the community by making the University more accessible. The University's information and communication systems, cultural collections and exhibitions all make a significant contribution to this imperative.

The University's enterprise systems support each stream of academic work while also providing improved services and efficiency gains in administration, streamlined processes and enhanced decision-making.

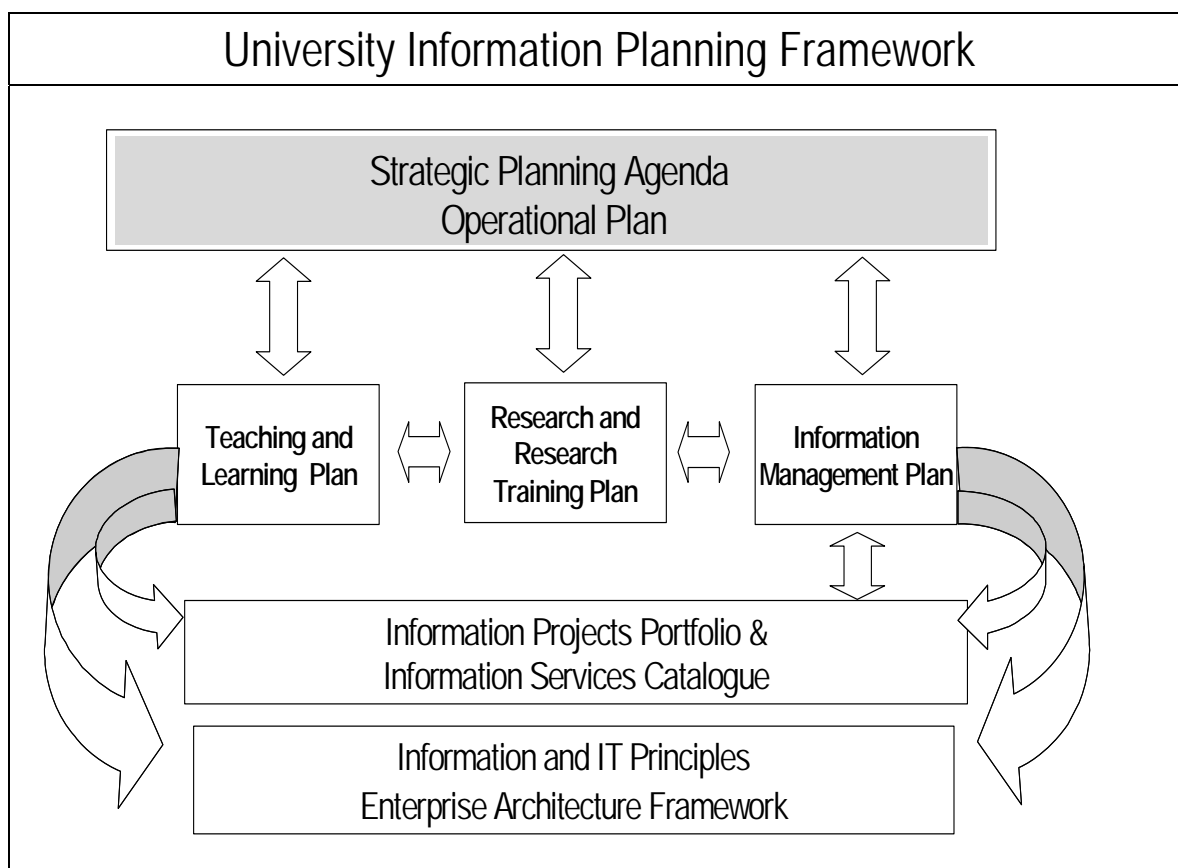
As a leading academic institution, the University needs to operate from a base of effective knowledge and information management and quality ICT infrastructure in order to facilitate world-class research, innovative teaching and learning, and twenty-first century management. Consequently, the University's Information Management Plan has a focus on enterprise-wide information management and ICT infrastructure planning. The Plan supports innovation and knowledge management in promoting learning spaces, services and technologies that bring people together to collaborate, share ideas and create new shared and individual knowledge. Over time, the University of Melbourne will be recognised not only as a leading university, but also as a leader in knowledge, information and ICT innovation and management.

## **Planning Framework**

The University of Melbourne's Information Strategy (<http://www.unimelb.edu.au/isc>) encompasses the plans, projects, principles, services and governance processes for the University's management of its information and underpinning information and communication technologies. The Information Management Plan is a key part of the Strategy. It outlines the high-level goals and strategies and, together with the Research and Research Training Plan and the Teaching and Learning Plan, underpins the University's vision.

The Information Management Plan is supported by a detailed, rolling three-year project portfolio and budget, the Information Projects Portfolio, and a suite of services, as defined in the Information Services Catalogue. The Information Management Plan and the accompanying Information Projects Portfolio have been developed collaboratively across the University through a series of workshops.

Foundation elements that underpin both plans are: the Information and IT Principles that guide policy development; and an Enterprise Information (and ICT) Architecture framework. Within this document the University uses the term 'information' in its broadest sense to encompass scholarly and corporate information, information systems and communication technologies and related infrastructure.



### ***Purpose of the Plan***

The Information Management Plan 2006 to 2008 is underpinned by a commitment to providing leadership in information services and quality infrastructure, and consists of goals and actions that support the University's vision. The Plan is grouped around the following key theme areas:

- Research
- Learning and Teaching
- Knowledge Transfer
- Enablers

Overall, the Plan serves as a blueprint for achieving the following goals:

- Position the University as an international leader in research and research training through access to leading-edge information management and infrastructure
- Within a research-led learning environment, create and promote excellent integrated information services, systems and technologies for students and staff
- Maximise access to the University's scholarly expertise and cultural collections through our information and communication systems and physical displays
- Provide high-quality, cost-effective enterprise information systems to enhance the quality and consistency of the student and staff experience, improve management decision-making and streamline administration.

## **Research**

### **Goal**

Position the University as an international leader in research and research training through access to leading-edge information management and infrastructure.

### **Strategies**

1. Introduce a world-class e-research environment, with services, technologies and infrastructure that facilitate research, research training and research collaboration locally, nationally and internationally.
2. Develop policies, processes and services to encourage the University's scholars to use, and contribute to, digital repositories of primary research data and scholarly output.
3. Realise the benefits from the University's research management systems so that data is collected and presented in a manner that is most useful for research management and decision-making.
4. Profile University research and research training internationally through a web-enabled expertise database and linked research publications.

### **University Targets**

1. By 2006 implement an e-research network and have the underpinning information infrastructure in place by 2008.  
*Accountability: Deputy Vice-Chancellor (Research); Vice-Principal (Information)*
2. By the end of 2006 establish sustainable institutional repositories, with a University policy in place, and establish suitable measures which demonstrate the growth and success of the repositories over 2006-2008.  
*Accountability: Deputy Vice-Chancellor (Academic); Deputy Vice-Chancellor (Research); Vice-Principal (Information)*
3. By 2007 have effective and efficient research management reporting at the researcher, department, faculty and University level through implementation of the Research Management System.  
*Accountability: Vice-Principal (Information)*
4. By 2006 implement a web-enabled expertise "portal" to profile our research activities, partnerships and strengths.  
*Accountability: Deputy Vice-Chancellor (Research); Vice-Principal (Information)*

## ***Learning and Teaching***

### **Goal**

Within a research-led learning environment, create and promote excellent integrated scholarly information and education services, systems and technologies for students and staff.

### **Strategies**

1. Provide scholarly information services, systems and technologies to support anytime/anywhere learning.
2. Develop interactive learning hubs and learning spaces that provide well-supported, research-led learning environments.
3. Provide information training and support services that encourage staff and students to be effective independent users of scholarly information, education services, and information technologies.
4. Continually enhance the technology-enriched learning experience through proactive professional development, research and evaluation, and curriculum development and design.
5. Support initiatives that will reward and recognise creativity and innovation in technology-enriched learning and teaching processes.

### **University Targets**

1. By 2008, provide the University community with anytime/anywhere scholarly-information services and technologies through the implementation of an enterprise learning management system and the development of common search interface capabilities  
*Accountability: Deputy Vice Chancellor (Academic); Vice-Principal (Information)*
2. By 2008 have two learning hubs established, one being a re-development of the Baillieu Library, and have two learning hubs in the planning stages of development.  
*Accountability: Deputy Vice-Chancellor (Academic); Vice-Principal (Information); Vice-Principal (Property and Buildings)*
3. By 2006 provide ongoing training opportunities and support to staff and students using the Learning Management System to improve their user-level skills in e-learning environments. Training and support is to be offered in all Faculties.  
*Accountability: Deans; Vice-Principal (Information)*
4. Over each year of the Plan show a continual increase in the percentage of academic staff using the learning management system in their teaching  
*Accountability: Deputy Vice-Chancellor (Academic); Deans*
5. By 2006 develop and implement an integrated program to encourage academic and general staff to apply for teaching innovation awards/programs to support innovation in technology-enriched teaching.  
*Accountability: Deputy Vice-Chancellor (Academic); Vice-Principal (Information)*

## **Knowledge Transfer**

### **Goal**

Maximise access to the University's scholarly expertise and cultural collections through our information and communication systems and physical displays.

### **Strategies**

1. Engage with relevant stakeholders to influence national information infrastructure policy and advance developments in national information infrastructure and open-access scholarly publishing.
2. Introduce ICT services and systems that promote international collaboration and mobility with easy access to information from anywhere, at anytime.
3. Enhance the quality and consistency of the University external web presence.
4. Improve the University's ability to engage with its alumni and the external community through appropriate information and communication systems and technologies
5. Profile the University's cultural collections as an integral part of learning, teaching and research, and an enriching and differentiating factor of the Melbourne experience for staff, students, collaboration partners and alumni.

### **University Targets**

1. Actively participate in debate on national information policy as evidenced by University feedback to, and representation on, relevant national bodies. By 2007 have University policies on open access publishing in place.  
*Accountability: Vice-Principal (Information)*
2. By 2008 implement University-wide collaboration tools for staff which include enhanced electronic document and records management.  
*Accountability: Vice-Principal (Information)*
3. By 2007 implement the Student Portal and related services, systems and technologies to provide anyplace and anytime access to student information services and systems.  
*Accountability: Vice-Principal and Academic Registrar; Vice-Principal (Information); Vice-Principal (Property and Buildings)*
4. By 2006 implement a redevelopment plan for the University website that clearly differentiates external and internal communication channels and upgrade the University's alumni system to enhance alumni engagement.  
*Accountability: Vice-Principal (Marketing); Vice-Principal (Information)*
5. By 2006 develop a comprehensive program to promote use of the cultural collections in teaching and research, in both the physical and virtual environments, and to staff, students, collaboration partners and alumni.  
*Accountability: Deputy Vice-Chancellor (Innovation and Development); Vice-Principal (Information)*

## **Enablers**

### **Goal**

Provide high-quality, cost-effective enterprise information and communication services, systems and related infrastructure to enhance the quality and consistency of the student and staff experience, improve management decision-making and streamline administration.

### **Strategies**

1. Identify key service and support processes for students, and re-engineer these to provide a consistent, seamless student-centred service across the University through more effective use of ICT.
2. Develop a university-wide IT shared services framework, to maximise relevance, quality and sustainability whilst minimising cost and risk.
3. Provide information in a form that enhances management decision-making.
4. Define and rationalize the University's information infrastructure and develop a framework for understanding the cost benefit of the University's ICT investment.
5. Develop a business continuity framework for enterprise management systems.

### **University Targets**

1. By 2007 provide a 'one-stop-shop' Library and IT information service queries for students through the learning hubs and online.  
*Accountability: Vice-Principal (Information)*
2. By 2007 implement appropriate systems to enhance management decision-making through better business intelligence<sup>1</sup> for the Executive, Deans, Heads of Department  
*Accountability: Senior Vice-Principal; Vice-Principal (Information)*
3. By 2008 have a University-wide IT shared services framework in place.  
*Accountability: Vice-Principal (Information)*
4. By 2006 have a University enterprise information and ICT architecture framework in place, the initial business benefits identified and have made significant progress on its implementation across the ICT infrastructure, enterprise systems, information management and business layers by 2008.  
*Accountability: Vice-Principal (Information)*
5. By 2007 have a business continuity framework in place for enterprise management systems.  
*Accountability: Senior Vice-Principal; Vice-Principal (Information)*

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<sup>1</sup> A process for exploring and analysing structured information (often stored in data warehouses) to discern trends or patterns, thereby deriving insights and drawing conclusions. Gartner's Glossary of ICT Terms.

# APPENDIX 1: Information Management and IT Principles

The University of Melbourne has nine Information Management Principles supported by nine Information Technology (IT) Principles.

Both sets of principles are foundation elements that underpin the University's Information Strategic Plan and are intended as a guide to information policy development.

In brief, the Nine Information Management Principles are:

- Principle 1: Information is a strategically important resource
- Principle 2: Enterprise information will be centrally managed
- Principle 3: University information will be accurate
- Principle 4: University information will have an identified source and custodian
- Principle 5: Information and information systems will be easily accessible
- Principle 6: Information management will comply with statutory requirements
- Principle 7: Information will be managed according to agreed security, archiving and disposal regimes
- Principle 8: The University is committed to an open information policy process
- Principle 9: Information management principles are supported by IT principles

Details are given at <http://www.unimelb.edu.au/isc/principles/draftip.html>

The Nine Information Technology (IT) Principles are:

- Principle 1: IT that is reliable
- Principle 2: IT that is secure
- Principle 3: IT that is flexible
- Principle 4: IT that fosters innovation
- Principle 5: IT that is responsive
- Principle 6: IT that is easy and transparent
- Principle 7: IT accommodates diversity
- Principle 8: IT that has consistent interoperability
- Principle 9: IT that is affordable and sustainable

Details are given at <http://www.unimelb.edu.au/isc/principles/itpr.html>

## **1. Information is a strategically important resource**

**The University of Melbourne recognises the importance of information as a strategic university-wide resource; that will be managed responsibly.**

### **Implications:**

- i. The University will develop an Information Strategy to guide Information Management
- ii. The Information Strategy will include appropriate governance frameworks and will support the University's strategic objectives and major activities of teaching, learning, research, and administration
- iii. The Information Division will work with the University community to develop sustainable information and ICT architecture, infrastructure and services to support the University's strategic objectives and major activities
- iv. Information management requirements will be identified as part of strategic and project planning and will be embedded into all new University activities
- v. All members of the University community are accountable for responsible information management
- vi. The University will provide an ongoing development program to encourage knowledge and information sharing, to educate regarding information management responsibilities, and to enable staff and students to create, access, manage and disseminate information resources effectively

## **2. Enterprise information will be centrally managed**

**Information assets that support the core activities of the enterprise will be maintained by systems that are centrally managed, such as data warehouses, designated enterprise information systems, and a university-wide electronic document and records management system**

### **Implications:**

- i. Enterprise information and enterprise information systems will be managed according to University defined standards of availability, data integrity and data loss, and support. This could mean that some enterprise systems will require 24x7 availability and out of hours support, whereas other systems must ensure absolute data integrity and no loss of data at any time. (see Principle 3)
- ii. Enterprise information systems and data storage facilities will be built on robust, documented and sustainable information, ICT and service architectures that enable data sharing and management reporting
- iii. Examples of enterprise systems at the University are Themis HR, Themis Finance, the Learning Management System, the Content Management System, the Research Management System, the Integrated Library Management System, The University of Melbourne ePrints Repository (UMER), the Student Information System and the student portal.

- iv. Examples of enterprise information assets that should be created once and shared, are individual and departmental names, titles, and locations; details of academic research output and CV's; policies and procedures e-portfolio's
- v. Scholarly information assets such as research output and data, both raw and published; and interactive learning objects from another information assets requiring management as agreed by the University informed by national and international standards and best practice
- vi. There are potential areas of conflict between this principle and some of our IT principles i.e.: IT that is flexible; IT that fosters creativity and innovation; IT that is responsive and IT that accommodates diversity. Centrally managed systems, while contributing to efficiency and effectiveness by reducing duplication, and facilitating management reporting, can limit flexibility, agility and innovation. This potential conflict will need to be managed appropriately as Principle 2 is implemented

### **3. University information will be accurate**

**Information provided by The University of Melbourne will be accurate and maintained with integrity over time. Where the information is sourced from outside the University, all reasonable care will be taken to ensure its accuracy and integrity.**

#### **Implications**

- i. The accuracy of university-provided information should be made obvious to its users, for example by providing clear statements about information ownership (see Principle 4), and date of last revision, with agreed standards of currency and timeliness being met for each information type
- ii. The trustworthiness of University-provided information should be a prime requirement in systems design and will include agreed standards relating to loss or alteration of critical enterprise information; access controls, systems security, audit trails and good contextual metadata about the information (e.g. who created it, when and for what purpose)

### **4. University information will have an identified source and custodian**

**University-created corporate information should be made available from a single identifiable and accurate core source or a derived source. The core source for any item of university-created information must be identifiable and accessible, and derived information must be identified as such. In general, changes should only be made to the core source. University-created corporate information should have an identified custodian, an identified access community and an identified set of maintenance responsibilities. This principle has most relevance to corporate and administrative information.**

#### **Implications:**

- i. When changes are made to a core source derived manifestations should be automatically re-generated. For example, the core source could be a data warehouse or an enterprise system such as Themis-HR that can then supply information about staff members to a range of other systems as

- derived information. Any changes to derived information must then be made in the data warehouse or in Themis-HR
- ii. Derived sources must be identified as such. Information derived from a core source should be identified as derived information, and a link (where possible) provided to the core source (with details about how to change it, or the process for review).
  - iii. The primary sources for corporate university documents should be formats that support single-source publishing; for example a database that allows Print, HTML and PDF versions to be automatically derived from the core source as required. This system would streamline production of administrative information and journals such as UniNews in online and print forms, while alleviating the risk of out of date information due to multiple formats being maintained by different custodians in different locations
  - iv. Where the core information or business record is in paper form, the notion of a single source can be applied to ensure that the archival version of something like a committee document is retained centrally, while allowing the committee members' copies to be destroyed as the disposal guidelines determine
  - v. Custodians will manage and update information according to schedules, business rules and governance frameworks that meet the needs of the enterprise

## **5. Information and information systems will be easily accessible**

**All information should be easily available and accessible to the University community; ideally to anybody, at anytime, anywhere. Information, and the way it is managed, should also contribute to the productivity of the University.**

**Information, information systems and services will be designed (or re-designed) in line with user-and task-centred design principles and accessibility guidelines.**

### **Implications**

- i. The default for University information will be that it is easily available to anyone who requires it requires implies any-one can get anything irrespective of whether they have delegated authority (particularly in an online environment) in a user friendly format
- ii. Online information will be easy and transparent, using open and integrated systems, with accurate search facilities, agreed taxonomy/ classification schema, functional interfaces and tools, with similar information presented in the same way
- iii. User-centred design principles and accessibility guidelines will inform development of all new systems and services including web-based information systems
- iv. Evaluation from a user perspective (both for usability and accessibility) will be part of the decision-making process for all new systems and services, particularly web-based information systems
- v. Information should be accessible from as many network-enabled and/or wireless locations as possible

- vi. Information architecture will be prioritised for ability to support teaching, learning and research; including innovative and emerging access devices and methods
- vii. Information management processes will efficient and effective, supported by “smart” technologies allowing, for instance, auto-generation of metadata and auto archiving
- viii. New information systems and services should not create additional workload for staff or students, unless there is a significant business benefit, for example:
  - a. Allowing individuals to manage their own personal information online, thus enhancing accuracy and timeliness; or
  - b. Implementing an electronic documents and records management system and assigning metadata to business records to support better retrieval; and ensuring documents are appropriately retained, archived and disposed of in accordance with statutory and legal discovery requirements

## **6. Information management will comply with relevant statutory requirements**

**Information will be managed in accordance with relevant ethical and statutory requirements; for example Copyright, Privacy and Freedom of Information legislation; records management policies; and national and international standards and best practice relating to information management and intellectual property.**

### **Implications**

- i. Information must be stored and managed in such a way as to allow a timely response to freedom of information and local requests, as well as legally-mandated controlled discovery
- ii. The University will manage personal information in a consistent manner to facilitate and evaluate statutory compliance
- iii. Information arising from research involving human subjects must comply with Ethics Committee requirements
- iv. Software and other Licenses and contracts will be checked for Australian and state compliance and will be held centrally as business records
- v. Information will be managed to support efficient discovery, disposal, archiving and subsequent rediscovery in accordance with accepted records and document management practices and statutory requirements. For example students should be able to easily locate policies and underpinning legislation online. Policies should also have an identified custodian, date of last review and process for change. (see Principle 4)
- vi. All members of the University community are accountable to ensure ethical information use
- vii. Ability to comply with Freedom of Information requests should be a requirement for process design and any new information system
- viii. Systems, networks, policies and communication to staff and students will designed to ensure information use within appropriate legal and regulatory frameworks and guidelines to those frameworks will be made available

## **7. Information will be managed according to agreed retention, archiving and disposal regimes**

**Essential information must be retained and disposed of in accordance with The University of Melbourne standards and external obligations. The University of Melbourne Archives will retain an agreed proportion of University information, forming the organisation's captured corporate memory. While it is retained, it must be managed in such a way as to be recoverable in the event of loss on a timescale consistent with university requirements.**

### **Implications**

- i. Retention, archiving and disposal regimes for different classes of information will be known and applied across the University and staff made aware of the regimes (as part of induction or refresher training). Where possible, these regimes should be built into information management software
- ii. Critical university information stored on local desktops, where it may never be backed up, should be relocated to central storage then backed up to an alternative location on a schedule and in a way that is agreed with its business owners

## **8. The University is committed to an open information policy process**

**The University is committed to the principle of an open information policy process, and will lead by example in information and knowledge sharing as part of the policy development process**

### **Implications**

- i. The University community will be given opportunities to participate in development of the Information Strategy and Information Principles
- ii. Information Principles and Policies will be regularly assessed for effectiveness in supporting productive information creation and use according to a formal review cycle

## **9. Information Management Principles are supported by IT Principles**

**Information Management Principles are supported by IT Principles and will be implemented in a manner consistent with IT Principles as far as possible.**

### **Implications**

- i. Where there is a conflict between Information Management and IT Principles an appropriate balance that supports productive information creation and use will be found. For example a conflict may arise in balancing efficient central information management with IT that is flexible and that fosters innovation and accommodates diversity.

## NOTES AND POLICIES

The University of Melbourne Information Management Principles are based on work done in 2004 by a representative working group from across the University, with significant input from Monash's Information Management (IM) Principles and informed by the University's Records Management Policy and Procedures Manual.

Standards Australia defines data, information and knowledge as a continuum in which data is "any manifestation... that in context may form the basis of information", Information is "data in a context to which meaning has been attributed" and knowledge is "a body of understanding and skills that is constructed by people". Knowledge management is then defined as "a multi-disciplined approach to achieving organisational objectives by making the best use of knowledge" with two common approaches:

- Focus on the capture of explicit knowledge (that has been recorded as information in a document, image, or other medium) and sharing this via technology; and
- Focus on managing tacit knowledge (that resides in a persons mind and may include aspects of culture of ways of doing) and creating new knowledge<sup>2</sup>.

While the primary focus of these principles is on assisting the University to manage contextual explicit knowledge or information efficiently and effectively, the principles also support knowledge sharing and the University's strategic objectives and major activities of teaching, learning, research, and knowledge creation.

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<sup>2</sup> Standards Australia. (2003). AS 5037(Int)-2003: Knowledge Management: Interim Australian Standard. December 12, 2004 from Standards Online Premium <http://online.standards.com.au/mate.lib.unimelb.edu.au/online/autologin.asp>

## APPENDIX 2: Enterprise Information Architecture

### What is Enterprise Information Architecture?

- An Enterprise Architecture is a framework of standards, principles, diagrams / models that describe the information and technology required to support business strategy and processes
- It provides clarity and shared understanding across the organisation, linking business drivers to processes and underlying information and technology.

The purpose of an Enterprise Architecture is to provide a roadmap to guide technology change that reduces risk, improves service quality and maximises the value of information and IT investments by:

- Reducing cost and realising economies of scale through consolidation and **standardisation** where appropriate; or
- Improving connectivity and enabling “client centred” service delivery through **standards** that enable interoperability between different technology solutions deployed across the University

### What forms part of the University-wide Architecture?

- A set of high level business and technical models (diagrams) that describe standard operating platforms, inter-relationships and inter-dependencies between business processes, information systems and infrastructure (Phase 1)
- Enterprise Architecture directory / registry for:
  - Common agreed taxonomy of terms and definitions used in the business and technical models (sample Phase 1)
  - A directory/registry of University-wide shared (uniform) components (services / information systems) and mechanisms for integrating local Faculty services with shared services (later phases)
  - A directory/registry of common components (services / information systems) used across the University (later phases)

### How Will It Work?

- Focused on a “client centred” Information Architecture in the Shared and Common domains, The Enterprise Architecture will be developed collaboratively by the University, then reviewed regularly and integrated into:
  - University governance and strategic planning cycle; and
  - Information Division governance, planning and portfolio management processes

The University’s Enterprise Architecture is located at <http://www.unimelb.edu.au/isc/>