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SMASHING THE SILOS: A NEW FRAMEWORK FOR INFORMATION SERVICES

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Background

Macquarie University Library, like other libraries throughout the world, has experienced the impact of information technology on the delivery of services. Libraries and information services heavily geared to deal with hard copy information – books, journals – have adjusted and changed to manage and deliver electronic information. Services are no longer only provided from the Library's physical premises but can be delivered anywhere, at any time. Macquarie University Library now spends more than half of its resources budget on electronic materials; in the last five years the number of electronic journals has increased from 2500 to 25000; the door count of persons using the Library building on campus is now equaled by the number of virtual visits to the Library via its website. Internationalisation of universities now means offshore access to services is essential. User expectations continue to rise and successful fulfillment of these expectations differentiates libraries and their services. Commonly held expectations are for information and services to be delivered to the desktop of the user wherever or whenever the users require them – 24x7x365 to anywhere in the world. A major outcome of this shift towards electronic information services has been the increased reliance on information technology (IT) to underpin and support services: robust and reliable technology is required to deliver services to meet the needs of users. While libraries have been generally quick to embrace technology and implement new services, the requirements of reliability, flexibility and scalability, with little or no downtime, need more than just the technology – we now need well-established processes to manage the technology.

To find a process which would enable us to manage the technology smartly and allow us to concentrate on development and delivery of new services, Macquarie University Library looked outside the library sector, to the IT industry, to find a robust quality methodology and examples of 'best practice'. Of several methodologies currently in use in the IT industry, the IT Infrastructure Library (ITIL), developed by the UK Government and first initiated in 1989, stood out as one which was not technology-specific, but focused squarely on service delivery (Office of Government Commerce, 2004). The ITIL IT Service Management (ITSM) approach is being used by an increasing number of Australian government departments, and is becoming increasingly integrated with other quality standards. In an assessment of the relevance of ITIL to the Australian

market in 2001, Gartner analysts John Roberts and Simon Mingay concluded that 'Repeatable, documented processes are essential to improving IT service delivery and management. The ITIL framework provides an effective foundation for quality IT service management. Any Australian enterprise considering quality improvements in service delivery should start with the ITIL' (Kidman, 2003). The benefits of choosing ITIL for Macquarie University Library were the focus on service delivery rather than specific technologies; its adaptability for use by small or large organisations, and the opportunity it offered to apply the same quality principles and processes to library services as well as IT services. While ITIL was initially singled out for the improvements it could bring to the provision of IT services, we also recognised that ITIL focuses on developing a service culture, where the customers can expect defined, consistent service which offers value for money and ongoing communication with service suppliers. Implementing ITIL processes throughout the Library offered an opportunity to reinforce such a culture and expectations, and a chance to rethink the existing 'silos' of the organisational structure at Macquarie University Library.

Literature Review

A scan of the literature reveals numerous articles and web sites describing and promoting the ITIL framework. In 2002, according to Kara (2002) there were over 20,000 businesses, governments, nonprofit organisations and consultants currently using ITIL and the number has grown ever since. A common thread in the literature is how ITIL is important because the approach uses a combination of industry standards and proven process models, and that costs of IT ownership can be reduced up to 50% (Stern, 2001, Dubie, 2004). There is general agreement by authors that the quality of an organisation's IT service directly impacts on the overall success of the organisation. Thus IT must deliver services that "ensure that business systems are robust, high performing, scalable, and secure in the extreme" (Kara, 2002, p68). This includes service-continuity management where risks may or may not be controlled by IT (Fry, 2004).

Of the few case studies described in the literature, the general belief is that using a standardised framework ensures that policies and procedures are put in place to guarantee better IT service delivery. For example, one US organisation's IT department stated that by implementing ITIL, it was able to measure its success based on the repeatable and consistent delivery of IT services (Dubie, 2004). Others state how ITIL provides a common language and a set of concepts to build upon the initial foundation of IT service delivery (Garfoot, 2003, Cox, 2004). It is also important to win high-level support for ITIL implementation to be successful. This includes investing in training for executive staff (Garfoot).

Dubie (2004) argues that by incorporating ITIL practices, an organisation can ensure that all IT departments operate under one mission that eliminates costly IT silos. It is this goal that Macquarie University Library aims to achieve, first for its IT department but in the long-term for the Library. The additional advantage is that the University IT department is also introducing ITIL and thus there is a

synergy across the University. Similarly, other Australian universities have found that ITIL is a positive process for improving IT service; institutions such as RMIT, Monash University, Queensland University of Technology (QUT), University of Ballarat and Edith Cowan University being corporate members of the Australian chapter of the IT Service Management Forum (IT Service Management Forum, 2004). A few papers are now available which describe the experiences of ITIL implementation with the university environment. For example, QUT describes how communication has been vital in implementing the framework across a federated IT structure (McCormack, 2004) and Griffith University details how the ITIL process of change management is integral to managing information systems' risks. (Callow, 2004).

The process

In selecting ITIL as the quality framework for the provision of IT services, Macquarie University Library made a commitment to embed this continual service improvement approach into all areas of the Library and not just the IT department. To this end, a total of seventeen staff, including all Library managers and IT staff, were trained in the IT Service Management Essentials Foundation Certificate. The training gave the group a common understanding of the process and a common language for describing and discussing service frameworks and improvements, and provided a core group of 'advocates' for the process. The Library also committed resources to the implementation of ITIL, employing consultants to help implement an IT Service Management framework and process, as experience in other organisations had shown that implementing ITIL can be a long and challenging process (Dubie, 2004). The engagement of consultants created a focus, which energised the staff involved, maintained the momentum for the service management projects and, in particular, provided expertise and guidance in an area that was new to the Library.

Before embarking on our ITIL journey, the Library needed to create a vision for service management – where, and what sort of organisation did we want to be? The outcome of this process was the identification of a mission, vision and purpose, which defined our 'end point' for the process we were about to implement. In keeping with the holistic approach we were developing, we identified goals that could apply equally to library and IT services.

If this was where we aimed to be, we then had to assess where we were at this time and do some 'gap analysis'. Through a rigorous process of assessment based on the maturity, penetration, efficiency and effectiveness of our processes as compared to ITIL benchmarks, we identified the strengths and weaknesses of our current IT service delivery processes. The assessment process involved all staff who had undertaken ITIL training, as well as other Library staff and clients so that all stakeholders had some input. Through this assessment we identified those processes that were weak and, with improvement, would have the greatest positive impact on services. It was agreed to begin with four initial IT projects:

Service Desk/Incident Management (SD), Service Level Management (SLM), Problem Management (PM) and Change/Release Management (CM).

The synergies

The identification of the projects was the first step; the actual implementation sparked the beginning of a change in the way Macquarie University Library carries out its business. To implement the projects successfully, the Library needed to identify and adopt a project management methodology and develop a project management process. Prince 2 was our chosen methodology, modified and scaled down to suit the Library's needs and the size of most of our projects; and a process for identifying, approving and resourcing projects was established. Implementing a project management process provided a management framework which had not formally existed. It introduced the principle of full resourcing for identified projects (rather than 'making do' with existing funds and staff) and full accountability – an identified project manager, a budget, project plan and a formal review of project outcomes to identify whether projects did indeed meet their initial objectives. Each project is also required to have a communication plan, outlining what will be communicated to whom, when and how – critical to the success and implementation of any project.

The adoption of an IT Service Management framework also had wider influence on the Library. The Library has begun a process of organisational change and restructure and many of the principles of IT Service Management will underpin the changes that will be made over the next year. The establishment of a virtual Project Office within the Library that provides a structure for managing, staffing and resourcing projects is one of the first changes in this change process. Aspects of the organisational change project itself will be managed as projects and resourced accordingly. The rationale and planning for the implementation of an IT Service Desk which manages incidents and service requests for both Library staff and all Macquarie students, has now been formally adopted and this restructure will become part of the Library's change process.

Implications for Macquarie University Library

Even though we have been working on this program for most of this year, the full impact of what we have tried to achieve may be difficult to measure for some time. However, so far the signs look extremely positive. Due to careful planning, the four projects that we chose have proven to be right ones with planning of a unified IT Service Desk being the most significant success so far. Prior to ITIL, one department (customer services) in the Library provided a helpdesk service for Macquarie University staff and students and a separate IT department provided a helpdesk service for Library staff. The customer services department used the service management tool, Remedy (BMC software), to manage its service whereas the IT department had no automated system. The SD Project goal is to change this by converging the two services. This will not only streamline the incident management process thus dramatically improving service

and cost effectiveness, but will also broaden staff knowledge and expertise in both IT and non-IT (people management) areas.

The SLM Project has enabled the Library to undertake an extensive review of its IT services. The ITIL process is based on IT services outlined in an organisation's service catalogue. As a result, one of the first activities for the Library's IT staff in its preparation for implementing ITIL was to write a service catalogue. However, in our SLM Project planning we soon discovered that a service catalogue must be prepared from the *customer's* point of view (for this project, a 'customer' was the manager for each Library department). We found that what IT staff define as a "service" is quite different to what a customer may see. For example, IT staff considered that providing and maintaining servers is a service whereas customers want an 'online service' that provides access to email, the internet and remote file storage. They want this service to be fast and reliable but are not interested in how this is done. As a result, the SLM project will enable the Library to prepare a comprehensive service catalogue that the customer understands. The next steps of the project include agreeing on service level agreements for each service between the customer and the IT department, to prepare underpinning operational level agreements within IT, and to review and update contracts with external IT vendors.

The final two projects, Problem and Change/Release Management, have also undergone a comprehensive planning process. Like the others, this has enabled the Library to review in depth how to deal with several IT operations that have proven difficult to manage. PM will provide the Library with a process for dealing with recurring incidents that should be not fixed but rather investigated as 'problems' and a process of change/release management will ensure that decisions and actions are made after all issues have been considered and communicated to relevant parties.

A complication to implementing the first stage of the process has been reconfiguring our service management tool to reflect the ITIL process. Macquarie University purchased Remedy several years ago to manage the Library's IT helpdesk and now the University's IT department also uses it. The system has been configured and reconfigured to cater for these, sometimes opposing, needs thus creating some argument on how best to have a system designed to suit ITIL. The problem is exacerbated due to the University not having a development server, and the cost of upgrading the system and purchasing ITIL compliant modules. The Library has worked around these issues by not automating some of the ITIL processes, eg. monitoring of problems. This certainly increases staff costs and is not efficient in the long-term.

The cost of implementing the process is certainly not cheap. Of course the ultimate goal is to provide cost effective consistent and timely service and ITIL will certainly achieve this but it does require a commitment of substantial outlay in

the first twelve months or so. As well as the cost of purchasing or upgrading a service management tool, staff training costs are high. It is vital to the success of the process that all staff involved are trained to an appropriate level (Dubie, 2004). At Macquarie University Library we also employed external consultants to take the Library through the planning stage and in establishing the four projects. This has been very expensive but we believe that having the necessary expertise available for advice and direction has been essential to our success.

Where to from here?

The first four IT Service Management projects are now about to be implemented. The process has been more involved than initially envisaged, due to the implementation of the project management methodology at the same time as the initiation of the projects. As project novices, we somewhat underestimated the amount of documentation required and the impact of unforeseen occurrences on the project: sickness, a change of consultant and the pressures of everyday work delayed the progress of the projects.

ITIL processes and principles are focused on service delivery, and can be applied more widely to Library services other than IT. Service Desk Management principles can apply as much to the circulation or reference desk as they can to the IT Help Desk. Capacity Management can relate to the number of staff and space a Library has to offer services to users; Availability Management can translate to library opening hours and offsite access to databases. Macquarie University Library has identified the development of a service catalogue for IT services as a first step in the crossover between IT and Library services. The development of an IT Service Catalogue has identified agreed services that IT will offer to staff and students, and the secondary services that underpin and support each of these. A service catalogue for library services will define the services that the Library provides for the University and the community, and how those services link and are supported internally. For example, a reference service relies on the IT service being available, the technical services area providing descriptions and locations for information, the Corporate Services area ensuring that suitable contracts for electronic resources have been negotiated and paid, and the Staff Development area providing suitable training and development for staff who are offering the services. The basics of Service Desk Management, such as a knowledge database and monitoring of statistics, apply in such a scenario, and the establishment of service level agreements with customers nominates an expected level of service, which can be measured and monitored.

Conclusion

The reliance on information technology to underpin and support services requires organisations to provide a robust and reliable infrastructure. At Macquarie University Library we aim to achieve this by implementing the ITIL framework. Our first projects have concentrated on improving service delivery by introducing

a new Service Desk, preparing a service catalogue with service level agreements, and introducing processes for problem and change/release management. So far the signs look good and we look forward to 2005 when the first processes will be introduced. Most importantly our work has led to a change within the Library, the language of ITIL providing us an opportunity to instill a new culture of what IT service and service delivery is to our customers. The challenge is now to take this outlook beyond IT to the rest of the Library thus breaking down our silos to provide true seamless service delivery.

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