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Library project management in a collaborative web-based working environment

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This paper discusses the emerging paradigm of project management performed in a web-based working environment. It highlights how project management and its associated features are strongly linked to fulfilling quality and value criteria for customers, and it examines how collaborative working environments can greatly reduce the administrative burden of managing large projects, especially and almost paradoxically, when resources are limited. Specifically, the paper examines the application of a project management methodology (PRINCE2) together with the use of a collaborative web-based working environment over a number of pilot projects at Leeds University Library. It describes the pilot phase of a library management decision to run a series of major Library projects using project management methodology, while continuing to run other projects through the existing locally developed planning mechanisms and describes the pitfalls of these latter alternatives, less sophisticated project management tools, and describes the main issues that this change in practice has brought to light. It draws preliminary conclusions about the effectiveness of this change in practice in one of the UK's largest academic libraries.

BACKGROUND

The University of Leeds Information Systems Services department (ISS) has been using a formalised project management methodology (PMM) for several years. The methodology is based around the PRINCE2 methodology that is used primarily in the UK public sector, and it has been tailored to suit local needs.

The Library decided to pilot the use of the PMM for a small number of projects in the 2003–2004 session. The decision to introduce a PMM

reflected both the volume of Library work now being conducted as projects, as well as the need for managers to have a better overview of the progress with ongoing interrelated projects. The Library has a strong performance management structure, and projects are primarily identified through a sectional operational planning process. Project initiation has traditionally been well managed, but it had been increasingly felt that there were issues related to the effective ongoing management of live projects – particularly in relation to decision-making, monitoring of progress, reporting back and internal communication within project teams.

In addition, a feature of the University of Leeds environment is the increased need for effective collaborative working across services. There is an increasing number of projects which require joint working between the Academic Services at Leeds (ISS, Library and Media Services). It made sense therefore to share a common methodology across the Academic Services in order to ensure the widest possible customer buy-in to projects, a consistency of approach and to maximizing service cost-effectiveness on project expenditure.

CHOOSING A METHODOLOGY

PRINCE 2 (PRojects IN Controlled Environments) is a public domain project management methodology. Since its introduction, PRINCE 2 has become widely used in both the public sector to support public sector reform agendas as well as in the private sector.

The method recognises the need for project management to deliver the necessary controls and breakpoints within a contractual framework and therefore works well in support of Library projects where external contractors are involved and which entail significant capital expenditure. PRINCE2 is end-product-based, which means the project processes focus on the delivery of results – not simply on planning when the various activities on the project will be completed. A PRINCE2 project is driven by the business case that describes the organisation's justification, commitment and rationale for the project.

In order to facilitate successful project management from inception to completion, the methodology is structured around project life cycles as follows:

Initiating:

- Agreement on whether there is sufficient justification and customer benefit for the project to proceed.

- Production of an acceptable business case for the project.
- Confirmation of management buy-in to the project.
- Agreement on commitment of resources for first stage.
- Setting up of a project board (or other mechanism) for ‘ownership’ of the project.

Planning:

- Production of acceptable documentation for the project, including a risk log.
- Identification of key milestones for the project.
- Identification of resources required, in detail.
- Identification of impact of project on resources elsewhere.

Executing:

- Flagging-up of project issues.
- Escalation of issues as required, for approval or decision-making.
- Management of major change in the scope of the project.

Controlling:

- Reviewing key milestones and targets.
- Monitoring use of resources.
- Monitoring budgets.
- Managing project risks.

Closing

- Ensuring that original aims have been met.
- Confirming extent of fulfillment of project, and customer satisfaction.
- Obtaining formal acceptance of the deliverables.
- Ensuring expected project outcomes have been handed over to customer.
- Making recommendations for follow-on actions.
- Produce an end project report.
- Capture lessons learned from the project.
- Agreeing timescale for post-implementation review.

RUNNING PROJECTS IN LIBRARIES

There is often a number of broader issues which underpin the decision to use a PMM to manage projects, regardless of organisational setting. The primary driver is that many projects either fail to deliver, fail to come in on budget, fail to complete on time, or fail to maintain effective communication with all stakeholders. The result of this is stress for project leaders, uncertainty for senior managers as to project status and deliverables, and lack of customer satisfaction.

In our experience, major Library projects have failed in the past for these specific reasons:

- Insufficient definition at the outset of the required outcomes.
- Insufficient alignment of individual projects with long term organisational strategic aims.
- Insufficient early involvement of Library customers affected by the project outcome.
- Poor communication between project managers and the rest of the Library.
- Misunderstanding or lack of clarity of roles and accountability within the project teams.
- Inadequate forward planning of manpower, costs and risk issues.
- Insufficient focus on ‘measurables’.
- Inadequate definition of quality issues.
- Indefinite or extended periods of project wind-down but no formal closure or review.

These problem areas are not isolated to libraries but are easily seen in the Library context and at Leeds were felt to be sufficient for us to initiate a review of working practice. We listed the following perceived benefits.

1. Builds on current work

The Library runs a complex array of projects every summer, mostly related to large-scale stock moves. These projects were already using a simple project management template. The template required managers to provide a rationale for their project, including a short business case, the impact of not undertaking the project, the likely costs, staffing requirements and impact on other resources. These templates were being used by managers to assess the rationale for prioritising projects. However the template did not support the management of the project beyond the initiation and budget allocation stage. It ignored implementation and completion phases of projects, and also did not include a mechanism for management interven-

tion at critical moments, when the project was poised on major change of direction, or on failing.

2. Provides a controlled and organised structure

The PMM provides a formal structure within which projects can be effectively managed. Each project must have a 'business owner' who acts as the principal advocate for the project at the senior management level. This would ensure that projects were adequately supported and 'owned' by senior managers. The project also has a 'project sponsor', who might typically be a potential user of the end result of the project work. This would ensure that a stakeholder/customer view was well represented. Each project is assigned a project manager who would run the project on a day-to-day basis, and is responsible for project documentation and communication.

Projects could report within a formal structure to the Library's Management Team which meets once a month. The Management Team would be responsible for receiving project reports, monitoring progress, and approving recommendations by project managers. This would provide project managers with senior-level buy-in to their projects and ownership of the issues arising from the projects at a senior level. The Management Team would provide a key decision-making forum and a hand-off point so that projects could move quickly into the next phase.

3. Secures early involvement of stakeholders

The documentation provides an opportunity for stakeholders/customers to ensure that their requirements and views are expressed clearly. The process also enables stakeholders to review progress of a project on a regular basis. This would encourage stakeholders to buy-in to the project, and guarantee shared ownership of the project outcomes.

4. Formalises review points

Regular 'highlight reports' would be produced by all project managers. These would be consolidated into a single report which is taken to the Management Team who would then have an overview of the current status of all projects, and could take decisions on the highlighted areas. The Management Team would provide guidance on 'escalated issues' raised by the project managers – usually issues which the project manager wants to bring to the attention of a wider group of staff in the Library, which require a decision beyond their authority, or to request a change of direction or to redefine the scope of the project.

This would enable clear and fast communication about project status across the Library and help to ensure the speedy resolution of issues. Issues which were beyond the decision making scope of Management Team would be escalated to the Library's Strategy Group, which meets fortnightly, so they would be able to feed their decisions back to the Management Team to tie in with their monthly cycle of meetings.

Following the Management Team meeting, an escalated issues report would be produced and passed back to the project managers to alert them to the decisions approved by the Management Team, enabling them to move on with implementation of the next stage of the project without delay.

5. Assures clear communication channels

The highlight report would act as a communication channel from project managers to library management and back again.

PILOT IMPLEMENTATION OF THE PMM

A small number of upcoming projects were initially selected for a pilot implementation of the PMM. The intention was to run these projects using the PMM and to use this as an opportunity to assess the applicability of the model to the Library environment.

The following projects were selected for the first phase of the pilot:

- *Digitisation of special collections: manuscripts from the Brotherton Collection of Manuscript Verse.* This project involved a number of stakeholders across the Academic Services, in particular the Library and Media Services, who were responsible for the digital capture of images.
- *Implementation of a new Library Server.* An internal project involving staff from the Library Systems Team.
- *Upgrade of the Library desktop to the Office XP environment.* This was an internal project involving the Library Systems Team, which had a considerable impact on the work of other sections of the Library.
- *A review of the future of services at a site library.* This was a complex project potentially involving a number of stakeholders including other Academic Services, an academic department and the NHS.
- *A review of the Library's use of metaframe software* to provide access to online databases.
- *Implementation of a University portal.* This was a long-term project with considerable input from all across Academic Services and

major requirements for consultation with a large number of stakeholders.

As the PMM began to be rolled out, a number of other projects joined the pilot as part of a second phase:

- *Conversion of the library video to online format* using Boxmind software. Another cross-service project with input from ISS and Media Services.
- *Implementation of a Library portal* using MAP software from Innovative Interfaces Inc.
- *Creation of a 'one-stop-shop' facility* for Academic Services

In total, eight members of Library staff were involved in the pilot.

The pilot was supported by staff from the Project Support Unit (PSU) based in ISS. The PSU undertakes support for all project management in ISS, and the staff in the unit were ideally placed to offer training, support and ongoing hand-holding for Library staff.

All staff received initial training in using the PMM. This took place over two separate half-days, and was led by staff from the PSU. During the training, staff were introduced to the key documents required as part of the PMM process, and to the rationale for using these documents.

DEFINING OUR PROJECTS

It was necessary to set a number of ground rules in order to determine the initial pilot projects. Although these definitions are still being discussed as part of the pilot phase, it appears likely that we will use the following as a basis to identify initiatives which will warrant project status in the future.

Project	Ongoing operation
Definite start and finish	No definite beginning or end
Temporary	Ongoing
Produces a unique end result	Produces the same end result repeatedly
Uses specially earmarked financial resources	Uses resources from operational budgets
Has clear ending criteria	Does not have a completion criteria

The PSU also recommends the Library follow a set of definitions for determining the level of future projects:

Title/Level	Sensitivity	Risk	Resource	Timescale
Micro	Not sensitive	Low	1 individual resource	< 3 Months
Minor	Not sensitive	Low	Cross functional, several resources/teams involved	3 Months to 9 Months
Major	Sensitive	High	Cross functional, several resources/teams involved	> 9 Months

This categorisation is used to determine the level of documentation and planning detail required for each project.

THE PMM PROCESS

The PMM process at Leeds requires that a number of key documents are produced in order to effectively manage a project:

Document	Purpose
Project mandate	Used to provide a basic summary of the project which captures and logs the original project idea.
Project brief	Used to request initiation of a project, and to gain management approval for the project to proceed. Contains a short description of the project, including purpose, drivers, key objectives, likely timescale, indicative budget, key stakeholders, proposed project leader
Business case	Used at the same time as the project brief to provide a cost-benefit analysis of the project, and to describe how the financial outlay will be justified. Also considers the 'do nothing' option.
Risk log	Identifies key risks to the project and realistic options for managing these risks. And risk tolerance.
Project definition report	Completed once approval has been given for a project to proceed. Defines the project and outputs in more detail, identifies the project team, team structure and agrees responsibilities for those team members.

Continued

Document	Purpose
Issues log	Logs ongoing issues as they arise in the project.
Highlight report	Produced throughout the life of the project indicating progress, key milestones reached, issues affecting the progress of the project, issues requiring decisions, including the decision to cease work on a project.

Project Definition Report (PDR)

The PDR lies at the heart of the process. This document captures the information needed to effectively direct and manage the project.

The PDR addresses the following fundamental aspects of the project:

- What is the project aiming to achieve?
- Why it is important to achieve the stated aims?
- Who will be involved in managing the project and what are their roles and responsibilities?
- How and when will the arrangements discussed in this PDR be put into effect?

In addition, the PDR also requires the project manager to consider key milestones and timescales for the project. Once completed, a PDR is approved by the Library Management Team. This provides the basis for a project to go ahead.

Initially these reports are time consuming to complete, but they do ensure that all aspects of the project have been taken into consideration, and inability to complete the PDR maybe an indicator of uncertainty about key aspects of the project value. For management to be able to intercept and stop a project at this very early stage is of considerable benefit to the organisation in terms of manpower, resource effectiveness and maintaining a strategic overview at all times.

PMM IN A COLLABORATIVE WORKING ENVIRONMENT

A collaborative working environment is being used to enable the sharing of documentation and materials, and to support the PMM pilot group. The collaborative working environment is using the VKP – Virtual Knowledge Park – which has been developed at the University of Leeds. VKP is used primarily by academic departments to support external collaborations and

outreach to business and industry. It provides a secure online working area where groups can share documents and other resources, use collaborative document authoring tools, contribute to online discussions and use whiteboarding and other interactive facilities.

A 'project workspace' was created for the PMM pilot group. This contains all of the formal PMM documentation, together with guidance and support documents. The documentation is uploaded by the PSU, and this provides a central, shared repository of the current versions of all document templates. Pilot group members can then download the latest copy of a document from the project workspace as and when they require it.

In addition, each member of the pilot group has their own folder which contains the documents relating to their specific project. This enables a high level of sharing of experiences to go on between pilot group members, as everyone has access to the documents produced by other members. Pilot group members have used this as an opportunity to learn from each other. This has also been particularly successful in bringing new projects into the pilot. Staff who are unfamiliar with the PMM can see examples of successfully completed documentation, and use this as an aid when beginning their own project documents.

The project workspace also contains a discussion board that can be used to share information and other issues between pilot group members. In practice this has not been used at present. However, we hope that this may be a useful tool in gathering feedback on the methodology when we come to evaluate the pilot.

ISSUES RAISED DURING THE PILOT PHASE

As we are running in a pilot phase, only a few projects are reporting using the formal PMM mechanisms. Other projects are reporting to the Management Team in a rather more *ad-hoc* way. This has led to some inconsistencies of approach. The full benefit of the PMM can only be realised if all projects are following the same process. Management Team members would then have a full overview of the status of all projects, and also of any resourcing conflicts.

However, at this stage in the pilot, Management Team members do at least benefit from seeing the approach working in practice, and this has begun to widen awareness of the methodology in the Library. During the pilot phase, two new projects were added to the initial pilot group, and assimilation of these has been easy. The Library has now put a brake on adding further projects because of the training load of getting all middle managers trained

on the methodology and the VKP working environment, but there is little doubt that without this temporary check, the process will grow organically.

BENEFITS TO THE LIBRARY

Stakeholder involvement from the start

This has been particularly well demonstrated with the University Portal Project. Use of the PMM has enabled us to bring in all of the stakeholders in this complex project at an early stage. In particular, the business case has been widely circulated and used to support a case for funding for a pilot implementation.

Template format

The template format ensures a consistency of approach to the documentation across all projects. Managers have commented that this results in comprehensive, well thought-out project documents, where the key deliverables can be easily identified.

Consistent 'look and feel' to the documentation

At Leeds considerable effort is expended to ensure a consistent look and feel across a range of communication tools – textual, visual, verbal and non-verbal. The use of a branded, University-wide template structure, and one which can be easily recognised outside the University as well, fits well with our corporate marketing and communications strategy.

Objectives/deliverables agreed from the start

Project managers have commented that they find it very useful to map out all of their key deliverables at the start of a project. This enables them to get a handle on likely timescales, effort and resources required. They also benefit from early management buy-in to these deliverables.

Collective management of 'scope creep'

Scope creep is a phenomenon that occurs when a project changes over time because of lack of agreement on the original scope statement, or owing to customer movement away from original scope statement. The PMM helps to minimise scope creep as all projects set a clear scope from the start, and also identify issues that are 'outside of scope'. This enables project managers to retain greater control over their projects.

Development of existing processes

The PMM is proving successful because it enables us to build on and develop previous management practice, rather than inventing entirely new processes.

Has demonstrated managerial control

The PMM has proved effective in enabling the Library to identify projects that are potentially high risk or unlikely to deliver benefits in line with the Library Strategic Plan. These projects can be stopped at an early stage before too much staff time and effort, or financial resource, has been invested.

Well liked and adopted easily by staff

Members of staff have remarked that they find the process useful in enabling them to manage projects effectively because it gives them a framework for effective planning. The production of the project documentation takes up time at the start of a project, but this is inevitably offset against time and efficiency savings later on.

LONGER TERM ISSUES

Strategic planning

As part of the pilot we are considering how a full roll-out of PMM will be achieved, if appropriate, and what changes will be required to business processes to enable this to take place. For a full implementation of the PMM to take place we would need to establish how the documentation could be used to feed into our planning and reporting cycles. This means giving careful thought to the synchronicity of strategic planning, budget bidding and operational planning processes. Sectional operational plans are reviewed between August and November each year. As part of this review, sectional team leaders produce a project brief and business case for each proposed new project. These are approved by the Library Strategy Group, and financial requirements fed into the budget cycle. This gives the Strategy Group a clear overview of all key projects, remit, purpose and likely workload requirements. The Strategy Group could then prioritise projects based on benefits identified.

Management issues

Once a project starts, a PDR and risk log would be produced by the project leader. This would go to Management Team for approval and sign-off. For ongoing projects, highlight reports would be produced and compiled for discussion at Management Team, or for escalation to Strategy Group as appropriate.

Collaborative working

The use of a web-based collaborative environment has brought about a number of tangible benefits. Project managers are able to share experiences and 'dip in' to each other's documentation in order to learn from best

practice. The collaborative environment also provides an ‘audit trail’ of documentation which can be made publicly available to staff within Academic Services. This increases project visibility as well as providing a valuable record of lessons learned.

Training issues

There are issues for libraries in the adoption and training for staff in use of web-based environments but we feel that the use of the collaborative working environment has provided a significant benefit to the pilot in enabling effective cross-sectional and cross-service sharing of expertise.

Reduction in administrative burden

The pilot has revealed that the methodology quickly reduces the administrative burden on project managers. Clearly there is some time investment required by project managers in the completion of their first PDR. This is time-consuming for them first time, but subsequently, as the paperwork becomes more familiar, completion becomes much faster. The use of a third party note or minute-taker is eliminated. Project meetings and actions are embedded within the PMM documentation.

Version control

A feature of the VKP at Leeds is version control. Because it automatically alerts all project members to a change in the original document, there is no doubt about which version in use at any time. This is linked to a mechanism within the methodology, which requires the project manager to lodge a new version formally. This can be critical in a fast moving project, where, if changes have to be made, they need to be agreed and signed off by all the stakeholders.

Library staff skills

Adoption of a PMM implies significant training and development for staff who will be using the methodology. However, staff benefit through improved competencies in project management and in the development of highly marketable skills for the wider workplace.

CONCLUSION

Although we are only now nearing the completion of the pilot phase, our assessment would be that the use of project management techniques within higher education libraries is not only beneficial but necessary. In the current HE climate the need to demonstrate value for money is critical, as is demonstrating a genuine increase in customer engagement with services and service quality.

Project management is likely to become an increasingly significant element of the workload of academic librarians. Developments in electronic resources and services and the introduction of new high-cost technologies demand excellent project management skills. Equally, the reconfiguration of our libraries to accommodate the learning styles of the twenty-first century citizen will require major adjustment to our library buildings and use of space. It is difficult to see how one could embark upon projects of this size and scale without using a formal project management process.

In addition, academic libraries will increasingly need to dovetail their projects with projects of other sections of the University. The Library's ability to plan, start and complete projects to tight deadlines and to fit in with University scheduling and flexible departmental timetabling will be critical.

Our conclusion from the pilot phase is that it is unlikely that one would risk embarking on future projects without the use of PMM tools to ensure faculty, student and community buy-in and successful project completion. Although the task of adopting such methods may appear daunting, the possible alternative of expensive project failure is more daunting still.

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