Computers & Project Management CMI

Part 3: Topic: Project Management using MS Office applications

Overview: This topic will look at how the MS Office software applications can be used to assist in the Project Management process in a commercial environment.

Note: *Example files used in class will be uploaded onto Moodle.*

Objectives:

- To gain an introduction to and insight into the use of MS Office applications as project management tools.

Introduction

We already looked at how you might source a suitable Project Management software solution. We went through some sample files to indicate how you might build a business case to cover the investment in the application. We also looked at how you might score the responses from the software vendors so that you try to ensure you pick the vendor solution that best meets your needs.

Next, we're going to look at how you can use MS Office applications (other than MS Project) to provide a degree of software based Project Management capability.

Project Management Tool component	**MS Application**	**Description**
Business Case / Project Mandate / Project Brief templates	MS Word & MS Excel	Simple reusable templates in Word & Excel. Excel for the financials. - Project Status reports - Schedule / Gantt examples
Risk Logs	MS Excel	Excellent range of possibilities available here. - See sample file - Calculate Inherent Risk, effect of mitigation / control, Residual Risk etc. - Track progress, actions, ownership etc.
Issue Logs	MS Excel	Same as for Risk Log. - Tracking completion / status of risks that become issues
Project Budgets	MS Excel	See sample files provided - Also use vendor estimates (e.g. via RFP responses)
Project Diaries & Resource Schedules	MS Outlook, MS Excel	For recording events / due dates etc., a spreadsheet can suffice. Also, - MS Outlook allows the simple use of a calendar and also the assignment of tasks (with reminders).
WBS	MS Excel, MS Outlook, MS Visio (if available)	Tasks / products can be listed in Excel, MS Outlook again for assignment and reminders.

The MS Office applications we are referring to:

- MS Word – for documents
- MS Excel – for spreadsheets
- MS Outlook – for email, calendar and organiser functions
- MS PowerPoint – for presentations and slideshows

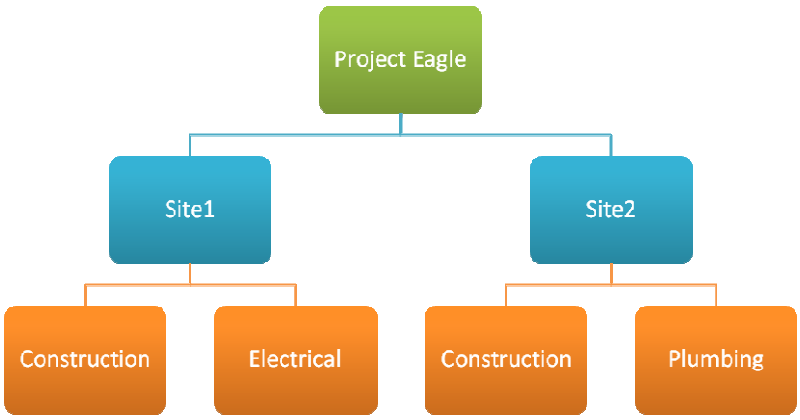
MS Project (this will not be covered in this session)

Level 1: Storage & Location - Documentation Repositories

The most straightforward way to store all MS Office files is to use a simple folder structure in Windows Explorer thereby creating a *document repository*. A document repository means a shared, formalised location for the storage or saving of files for a specified purpose.

Depending on how many people and organisations are involved in the project, you may need to consider the following:

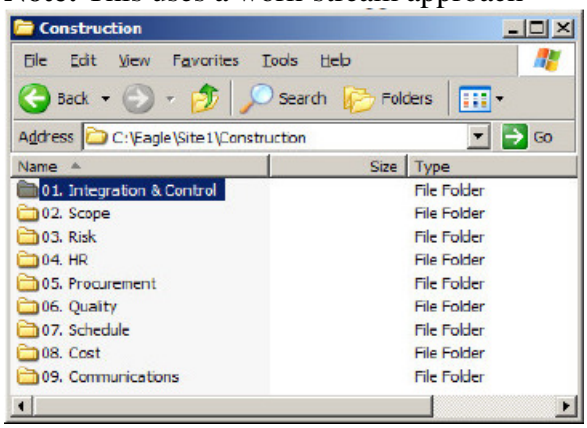
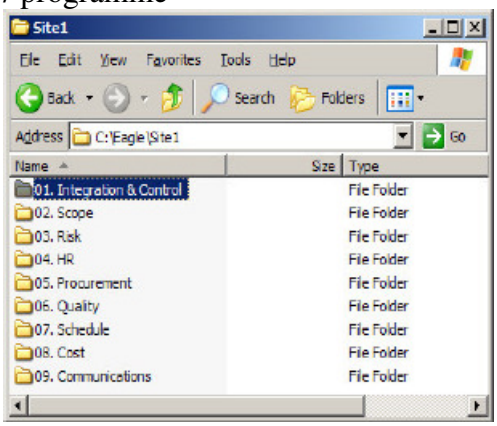
- Need to have a Project Integration & Control function that ensures documents are stored in the right locations and are only accessible to those that need or have permission to access them.
- Need to develop procedural controls to ensure that there is proper version control over key documents. If you don't impose change and version control over key documents, you can lose track of which version is the current one and therefore which one Project Team members should reference.
- You may also want to structure your Project *document repository* along the lines of your project or programme organisation structure e.g.



A simple hierarchy can be followed for a project management document repository. The key thing is to ensure that documents that have a home within the repository are filed there, accessible only to those that should have access and that they are kept up to date (with version control).

Level 2: Standard folders – by project:

You can set up the folder hierarchy so that it contains all the individual project folders and sub-project folders beneath them. In many cases, it might be on a full network drive (e.g. a project Share) and access controls will be via your group membership i.e. your network user account will be a member of e.g. ProjectEagle\Site1\Construction etc.

<table>
<tr>
<td>Based on PMI Knowledge areas:
Note: This uses a work-stream approach
 
</td>
<td>Note: This uses one structure for the whole project
/ programme
 
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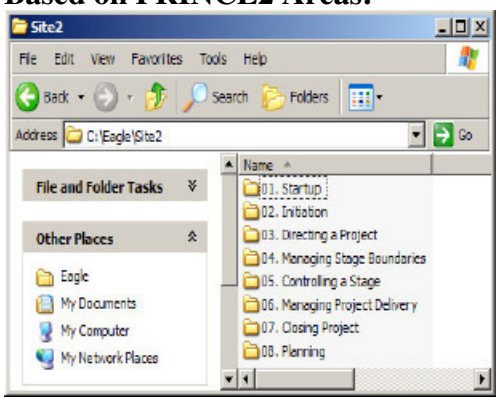
<tr>
<td>Based on PRINCE2 Areas:
 
</td>
<td>What's the difference?
• No difference – the above just shows that you can structure your project share to suit your PM approach, methodology etc.
• Once you build this structure, you need to have someone make sure it's being used properly.
• Don't let people misuse the structure or you'll end up with rubbish in your files and your files won't properly represent what's happening in your project!</td>
</tr>
</table>

The actual set-up of the organisation in project management terms need to be determined so that you can build the fileshare folder structure to reflect the way you want the project team to store and manage data. Another thing you can do is to develop a website to point at all the directories so that your team members will find it easy to navigate to the files and folders they need.

You can also use the website as a Project Intranet to publish notices, document updates, links to the "current" version of files (e.g. Risk Log) etc. Ultimately, this structure will represent the context within which the new PM system(s) are going to be managed and used. It will be influenced by issues such as:

- Is there a project management office or similar centralised function?
- Does the organisation apply a prescribed project management methodology, such as PRINCE2 / PMBOK?
- Consider the likely users – level of expertise with computers in general, level of expertise with the project management methodology, frequency of use, the number of users, familiarity with any existing templates etc.
- Are you in a specialist industry e.g. software / construction / engineering / manufacturing. Name the folders and file so they are meaningful and descriptive.

    - Do you need to include specialised PM processes with close coupling to your industry e.g. Statistical Process Controls, CAD/CAM etc?
- Do you need to be able to read PM files from sub-contractors and suppliers?
- How will the organisation use the tool-set when it is implemented?
- Will the tool be used to help prioritise all projects (scoring)?
- Will it be used for resource allocations (pools) and resource levelling?
- Is the tool only intended to provide more discipline around existing applications?

When you take a while to think on the above – one thing becomes clear: you need to know what you're going to use the tools and utilities for. Remember, there's no sense in having a "sledgehammer to crack a nut" or, for that matter, "having a nutcracker when you really need a sledgehammer"! You need to have a good understanding of the strength and functionality of the tools you will require.

All of this comes back to the RFP process we reviewed already. You need to understand what your "as-is" processes are and what your "to-be" processes need to be. If you don't get this right, you'll end up having the wrong toolset for the road ahead. Be careful when you opt to use MS Office on its own however... You should at the very least purchase an affordable PM software application. If it's low cost – you haven't wasted too much time or money and you'll allow your PM organisation to learn what it is that it really needs from a PM software system.

We previously cautioned you to involve the IT department as early as possible. Any specific technical constraints need to be considered straight away, e.g. what server types does your organisation use? Lock calls this "Check and verify company IT standards". If they are any good and you can get them on your side, you'll have a very good ally during your implementation and post implementation support phases.

These are some of the items that need to be done / considered before beginning the selection process itself.

Naming Conventions & Version Control

A naming convention means that each type of file should always be saved in the same manner and location.
For example, when a "Work Breakdown Structure" template is used to describe the Eagle Project, the following naming convention could be applied:

Project Name - Eagle
Sub-project - Site1
Workstream - Construction
File Content - WBS
File type - XLS (if you use excel) .PPT (if you use PowerPoint)
File Name: - WBS_081023Final_EagleSite1Construction.xls

Using the date in format YYMMDD results in the files being "stacked" in age / version order relative to their actual save date. A 'version number' is the easiest means to identify the latest version of each document or file. It is also a good idea to include "FINAL" or "SIGNED OFF" in the file name for files that should not be altered during the project.

Document Control

It is vital to the project manager that all alterations or updates to documents or files are easy to identify.
Version control is the first step in control. In addition each document should contain the following:

- Document Details – a simple table outlining the document or file name, the project, version, author, date etc.
- Document History – a simple table recording the updates that were made to each version. This is important as a document version history for anyone who made changes to the document. The 'Comment' field should include a brief indication as to why a change was made, e.g. *Amendment to WBS at request of XX in Construction Finance unit, following meeting 20-Oct-11*.

Both the Document Details and the Document History should appear before the contents page of any MS Word document or in a separate sheet in MS Excel (or slide in PowerPoint) – page footers are as hand a place as any. The version that is saved in the document repository is the one that should be used at all times. Try to avoid printing from email attachments etc. as the document may have changed a lot since the email was sent. Once you have the most up to date version on file, generate a link back to it from your project Intranet. If the links are kept up to date, people should never end up using the wrong file.

If a document is checked out for update, consider having the Intranet link point to a file that says "The document you have requested has been checked out for update. Please try again later."

The examples below show how you might label the front page and the version control table for a document that is under version control:

Document Details

Title:	**Project Plan**
Project:	
Version:	
Date:	
Author:	

Sample: Document Version History / Change Control

Document History			
Version	Author/Reviewer	Date	Comments

Approval History			
Version	Approvers	Date	Comments

You don't have to version control everything, but documents and files that are important and / or critical to the project approval and communications process should be considered for version and change control.

Approvers are generally a good idea for documents that represent consensus, contractual approval / agreement, stakeholder agreement or project management pronouncements (e.g. policies, procedures, standards etc.).

There are numerous security and protection features available for a document repository of MS Office files.
Some of the more straightforward options are listed here:

- *Network permissions* are the most effective way to control access rights for a document repository. The 'network administrator' controls these rights.
- *Track Changes* (Tools menu) literally records alterations made to a file. Track changes can become overwhelming over a period however so the 'Document History' is a vital component.
- *Password Protection* (Tools / Options / Security) introduce passwords for opening and / or altering documents or folders. This can be extended to individual cells in Excel.

More Advanced Document Repositories

Some of the most common include *MS SharePoint* & *Lotus Notes*. Products such as these advanced document management applications exist provide more automated controls (e.g. automatic notification of changes) for version control and accessibility and also allow for better presentation and search capabilities (when managed properly!).

Business Cases / Project Sanctions / Project Briefs etc.

Every project requires a document that contains the justification and authorisation for the project. This can be easily created in MS Word and can contain some of the following headings (see sample files):

- Reasons – why is the project required? Some commonly used reasons include: strategic, legal or mandatory, cost reduction.
- Options – brief description of the options assessed for the project.
- Benefits – both tangible and intangible
- Risks – summary of the key risks for the project, e.g. resources not available when required.
- Financial Summary – recommended that this is completed in MS Excel and pasted in. Should include estimates of costs including any additional profit & loss impact in the longer term.
- Investment Appraisal – return on investment analysis.
- Project Approach – brief description of how the project will actually be completed

- Sign Off – a key element of most project management documentation. Project managers are powerless without the proper authority so sign-off from the relevant parties should always be documented.

Many organisations apply additional steps here by using a "Project Brief" or "Scope Statement" to further explain how the project will proceed. Ultimately these documents should lead to the first draft of the project plan.

The project plan is a compound document that can include (depending on your methodology) areas such as:
Procurement Plan; Scope / Change Control Plan; Schedule Management Plan; HR / Team Management Plan; Cost Control Plan etc. Naturally, it will also include the design and contract documents that relate to the end product and the efforts involved in delivering it. The Plan should reflect what the project intends to deliver, when it intends to deliver it and how it proposes to do so. It is not unusual for the plan to change if there are major changes e.g. in design (customer changes mind / budget constraints / recession), in external factors (planning permission is always a good one), in critical resource shortages (e.g. cranes not available) etc.

Significant changes should result in a restatement of the project plan, with re-approval and re-issue (on the project file share). The key thing to remember is that if the plan doesn't properly represent what should be happening, there's a serious risk the project and product will be adversely affected.

Additional items that are often added in these planning / plan documents include:

- Scope – departments, locations or systems effected. Scope descriptions will vary from industry to industry.

- Constraints – known constraints on project (e.g. head count freeze in project office).

- Dependencies – other departments, organisations or projects that this project depends upon for success.

- Assumptions – make clear what assumptions relating to the project's success have been made to date.

- Tolerances – reference to the "triple objectives" here: cost, time, quality / scope. What leeway, if any, exists on each of these?

- Name of the project manager and project sponsor or executive.

Project Plans

MS Word is again recommended for the narrative section of the *project plan* documents. There will be many aspects to the plan however, encompassing other MS Office applications.

There should always be a link from the original *business case* or *project charter* through to the detailed *project plan*. The plan is ultimately the detailed version of the original document. For example, if the business case contains a plan to build a single-storey rectangular garage, the plan should include the work, schedule etc. required to complete a single-storey rectangular garage and not a 2-storey octagonal structure.

The latter would require a new business case!

Executive Summary
Project plans can be summary level or extremely detailed. It pays to remember the stakeholders when generating a plan. An "Executive Summary" at the start of a lengthy project plan can be beneficial. Many people are put off by hefty documents and this can slow approval of a plan.

Plan Composition
The project plan should tell the reader:
- What the project is aiming to achieve
- Why it is important to achieve it
- Where it will be carried out
- Who is going to be involved
- How and when is all of the above going to happen
- How much it's going to cost
- Constraints, assumptions, known risks & issues

Baselining
All project plans should be "baselined". This means retaining the original signed-off version of the plan to allow comparisons and tracking against objectives (cost / time / quality) throughout the project. Version control is important here as the loss of the baseline plan makes comparison impossible!

Project Plan Sections
Most project plans contain the following:
- Background to project – not all readers will be familiar with the circumstances or drivers that lead to the project in the first place. It is important to provide some detail.
- Project definition – objectives, scope, deliverables, exclusions, constraints, interfaces / dependencies, assumptions
- Project approach
- Project tolerances
- Project controls - laying down how control will be exercised over project.

The following sections are generally included and will change or will be updated throughout the project:
- Initial document, e.g. business case with budget
- Project budget
- Project schedule
- Risk log or register
- Project organisation structure
- Roles & responsibilities
- Work breakdown structure or product breakdown structure
- Contingency plans
- Communication plans – who, how and when for reports or updates

The various sections of the plan can be created using other MS Office applications.

Risk Logs / Issue Logs

MS Excel is an excellent application for recording all risks and issues. Individual risks or issues can be assigned individual sheets in an Excel workbook, with one sheet devoted to providing an easy to use summary of all risks or issues associated with the project.

Risk Logs should include all the information about the risks, their analysis, contingencies and latest status.
Some common headings include the following:

- Risk identifier – unique code
- Author
- Date identified
- Description of risk
- Risk category – e.g. legal, technical
- Impact – effect on project
- Probability – likelihood of occurrence
- Proximity – closeness in time risk is likely to occur
- Contingency – countermeasure
- Owner – who will track the risk
- Date of last update – basically another version of 'Document History'
- Current Status

The Issue Log is there to record things that have actually happened or are about to happen, as opposed to a risk which may or may not occur. No issue is too small to record. The issues can be simply closed out if no further action is required but it always helps to record items that may occur again in the future so that the same solution can be applied.

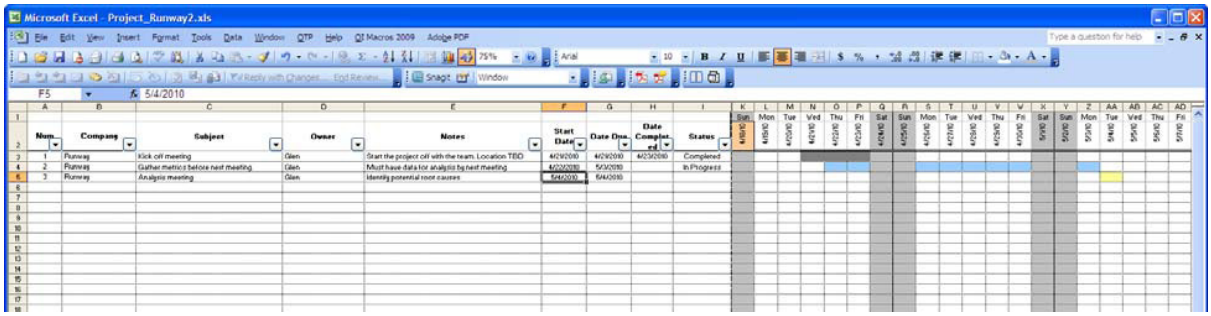
Common issue log composition items include:

- Project Issue Number
- Issue type
- Author
- Date identified
- Date of last update
- Description
- Priority - a simple scale, e.g. 1 - Low, 5 – Very High can be helpful here
- Status
- Responsible for actioning / managing resolution

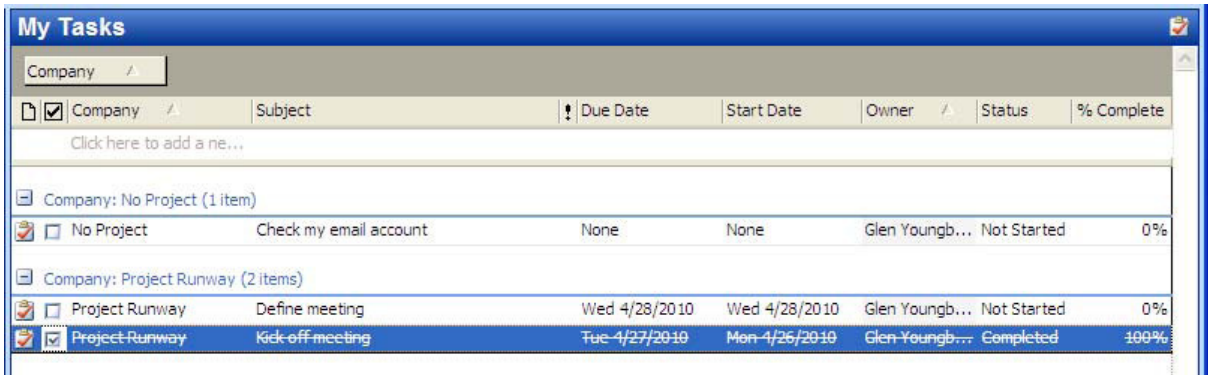
Project Diaries & Project Schedules
Simple project diaries can be set-up in Excel including details of personnel locations, milestones (significant point in project) etc. can be added. The diary can be a valuable aid in monitoring progress on the project and also in controlling the work on a day to day basis.

Simple Excel formulae and functions can be used to track expenditure and progress with the Project Diary as the main input. These can also be used to create a Gantt chart. There are templates available to download to greatly simply this process. Also Excel Add-Ins can be purchased.

See an example below of a Project schedule showing a Gantt chart.

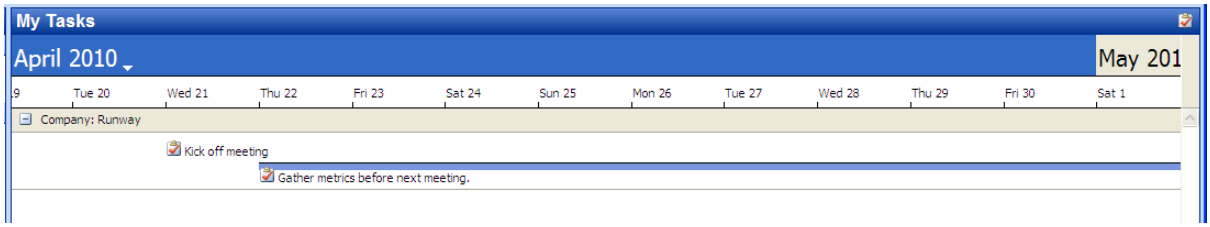


Microsoft Outlook, in addition to Mail, Calendar, and Contacts, has a component called Tasks. There is an option to import the tasks from a project schedule created in Excel into the Tasks section of MS Outlook.



We can then assign resources to the tasks and track their progress. When a task is assigned to a resource they receive an email and the task is then added to their MS Outlook task list. From here they can report on the status of the task and receive reminders when tasks are due. Updates to these tasks are then reported back to the Project Manager and appear in their Tasks section.

There is also a Gantt chart view in the Task section of MS Outlook, which looks like this:



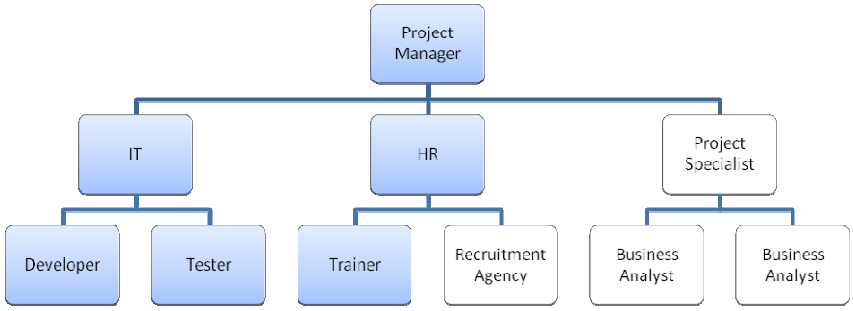
This tool can work well in organisations when MS Outlook is the email system used by all members of the project team and is an efficient way for the PM to keep track of tasks, provided the team has received training on how to use the Tasks section of MS Outlook.

Project Budgets

MS Excel is a spreadsheet application and as such is excellent for the generation of project budgets and in the tracking of expenditure etc. Finance or accounts departments often have required needs and / or applied parameters for budgets within the organisation. Labour costs, fixed costs, expenses etc. can be added to individual sheets and fed to a summary sheet. Using this approach, you can do calculations such as “TaskX” to be completed by “ResourceY” at a cost of €200/day for 5 days = €1,000

Alternatively, some costs can be updated by inputs to the Project Diary e.g. add €250 to labour cost tally for
each day "Y" is in attendance.

Project Organisation Structures
MS PowerPoint includes an "org chart" option and this is the best means of sketching out an Organisation Structure for the project. Excel 2007 also has a utility that allows Org Charts (Hierarchy Charts) to be drawn.



Work Breakdown Structures (WBS)
It is possible to use the PowerPoint 'org chart' options to provide WBS diagrams but again Excel is generally the best option. A single sheet, feeding to a summary (as per the Risk Log or Issue Log) is again an easy way to gather all the information on each individual task or product that should be completed. The level of detail required for each task or product will vary from organisation to organisation and from project to project.
Some commonly used contents:

- Identifier
- Purpose
- Design or description
- Risks specific to task / product

Highlight Reports & Project Updates
Project stakeholders will require updates and information on project progress from time to time. Many of the suggestions above, in particular the Excel items, can be used to feed into 'summary' reports but generally, if MS Office applications are the only ones in use then a narrative will need to be typed up.

Don't forget that Mail Merge in Microsoft Word can be used to "connect into" an Excel spreadsheet (e.g. costs, schedule, resources, risks, issues etc.). This could be used to generate a standard Status update – or least the numbers part of it – directly from the stats file in Excel. You just open the status report template and refresh the mail-merge data from the Excel Stats file. MS-Mail merge can typically be used to merge with any data source that is MS Office native or ODBC compliant.

The timely and effective communication of project progress to relevant stakeholders is an essential part of controlling a project.

Again MS Word is the best application to use for this work. PRINCE2 recommends the following contents for Highlight Reports but these can be applied in any type of 'update' document:

- Date
- Period covered
- Budget status – use simple RAG (red-amber-green status)
- Schedule status – RAG
- Products / tasks completed during period – RAG optional here
- Actual problems / risks update
- Products / tasks to be completed during next period
- Project issue status
- Budget / schedule impact of any changes
- Tolerance situation

Conclusion / Summary

Today we looked at some ways to structure a document repository and how you can use MS Office applications to provide software based Project Management capability.

Bibliography and Further Reading

- Project Management, 9th Edition – Denis Lock (Gower).
- Risk and Decision Analysis in Projects (2nd Edition) – John Schuyler (PMI).

General reference websites:

www.prince-officialsite.com - PRINCE2 website
www.pmi.org – Project Management Institute
www.ipma.ch – International Project Management Association
www.Gartner.com – Gartner website, IT consultancy
www.theirm.org – The Institute of Risk Management (IRM)
http://office.microsoft.com/en-us/training/FX100565001033.aspx - MS Office training

Websites for sample files & other utilities for this week's material:

- www.transcare.com/kaizen/Kaizen_files/Using%20MS%20Office%20to%20Manage%20Projects.pdf - Using Microsoft Office to Manage Projects
- www.egovernment.tas.gov.au/project_management/supporting_resources/templates/small_to_medium_projects - Business Case Template
- www.projectmanagementdocs.com/project-planning-templates/risk-register.html - Risk Log
- http://office.microsoft.com/en-us/templates/TC011417231033.aspx?ofcresset=1 – Project Status Report
- www.projectconnections.com/knowhow/subsets/sample-templates/StatusReports.doc - Project Status Report (detailed)
- http://readyset.tigris.org/nonav/templates/plan.html - Project Plan
- www.vertex42.com/ExcelTemplates/excel-gantt-chart.html - Gantt Chart Template (excel)
- www.ozgrid.com/Services/excel-charting-add-ins.htm - Gantt Chart Add-ins for Excel
- www.criticaltools.com/wbschartprosoftware.htm - Gantt & Pert Chart tools (demo)

Student preparation (informal):

To prepare yourself for the class, try having a look on the Internet for some of the sample files (links) above.
These are easily located using Google searches such as "Project Status Report Template; "Project Plan Template"; "Project Risk Log Template" etc.