Software Project Management

Week – 16

Today's Lecture

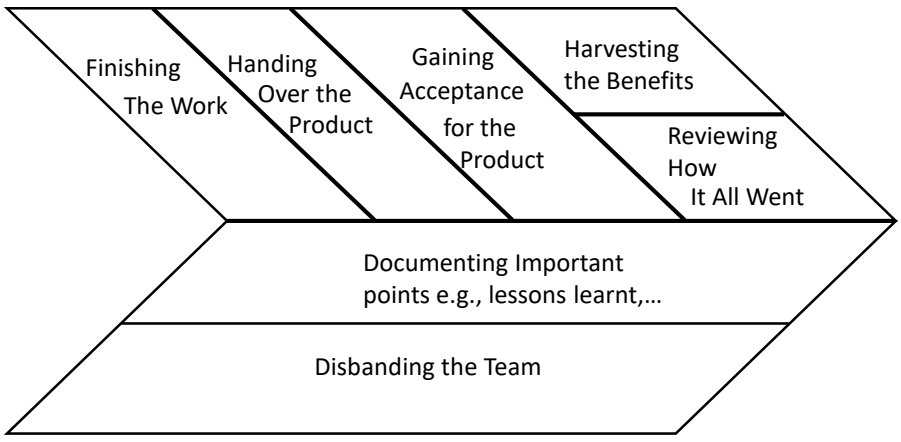
- Project Closure / Termination
- Project Closing Audits

Slides from Project Management: Achieving Competitive Advantage,

Project Closure

- Steps in a Project Closing
  1. Do a Lessons Learned session.
  2. Reconcile the budget.
  3. Formally hand-over the product/service.
  4. Release resources.
  5. Close contracts.
  6. Prepare the project completion report.
  7. And . . .

Elements of a Project Closing



Lessons Learnt

What does it do?	Who's involved?	What's the benefit?
▪ Identifies what worked and what didn't ▪ Recommends ways to improve performance on future projects	▪ Project team ▪ Key stakeholders	▪ Future projects benefit from documented lessons learned
What do I do?	**What tools do they use?**	**Who can help me?**
▪ Request the Project Office to conduct a lessons learned session ▪ Provide contact information for project team members and key stakeholders	▪ Lessons Learned Survey ▪ Project Look-back Agenda ▪ Lessons Learned Report ▪ Lessons Learned – Management Report	▪ Project Office

Bottlenecks in Project Data Collection

- Project sign off can be a de-motivator
- Constraints cause shortcuts on back-end
- Low priority activities
- Lessons learned analysis seen as bookkeeping
- Static
- Task-team
- Sponsorship
- Economics
- Environment
- User
- Unique view of IT projects
- Question: What are the sources of DATA for project closure activities

Project Auditing

- A major vehicle for evaluation is the *project audit*, a more or less **formal inquiry** into any aspect of the project
  - A project audit is **highly flexible** and may focus on whatever matters senior management desires
  - The evaluation of a project **must have credibility** in the eyes of the management group for whom it is performed and also in the eyes of the project team on whom it is performed

Purposes of Evaluation - Goals of Project Audit

- Four independent dimensions of success:
  - The most straightforward dimension is the project's **efficiency** in meeting both the **budget** and **schedule**
  - Another dimension, and the **most complex**, is that of **customer impact/satisfaction**
  - A third dimension, again somewhat straightforward and expected, is **business/direct success**
  - *The last dimension, somewhat more difficult and **nebulous** to ascertain, is **future potential***

Purposes of Evaluation - Goals of Project Audit

- Another primary purpose of evaluation is to help translate the achievement of the project's goals into a contribution to the parent organization's goals
- To do this, all facets of the project are studied in order to **identify** and **understand** the **project's strengths and weaknesses**
- *The **result** is a set of **recommendations** that can help both ongoing and future projects*

Evaluation– Benefits of Project Audit

- A successful project evaluation via audit can help an organization:
  - Identify problems earlier
  - Clarify performance, cost, and time relationships
  - Improve project performance
  - Locate opportunities for future technological advances
  - Evaluate the quality of project management
  - Reduce costs

Project Audit

- Six parts of a project audit:
  - 1. **Current status** of the project
  - 2. **Future status**
  - 3. Status of **crucial tasks**
  - 4. **Risk assessment**
  - 5. Information pertinent to other projects
  - 6. **Limitations** of the audit
- It is far **broader** in scope **than a financial audit** and may deal with the project as a **whole or** any component or set of **components** of the project

Audit Depth

- **Time and money** are two of the most **common limits** on depth of investigation and level of detail presented in the audit report
- Accumulation, storage, and maintenance of auditable **data** are important cost elements
- Two often **overlooked costs** are the **self protective activity of team** members during an audit, and the potential for project **morale** to suffer as a result of a negative audit
- There are three distinct and easily recognized levels of project auditing:
  - **General audit** - normally most constrained by time and resources and is usually a brief review of the project touching lightly on the six parts of an audit
  - **Detailed audit** - usually conducted when a follow-up to the general audit is required
  - **Technical audit** - generally carried out by a qualified technician under the direct guidance of the project auditor

Audit Timing

- The **first audits** are usually done **early** in the project's life
- Early audits are often focused on the **technical issues** in order to make sure that key technical problems have been solved
- Audits done **later in the life cycle** of a project are of **less** immediate **value** to the **project**, but are **more valuable** to the parent **organization**
- As the project develops, **technical risks** are **less likely** to be matters of concern
- Conformity to the **schedule** and **budget** become the **primary interests**
- **Management issues** are major matters of interest for audits made **late** in the project's life
- **Post-project audits** are often a **legal necessity** because the client specified such an audit in the contract

Construction and Use of Audit Report

- Information that should be contained in the audit report:
  - 1. Introduction
  - 2. Current status
  - 3. Future project status
  - 4. Critical Management issues
  - 5. Risk Analysis
  - 6. Caveats, Limitations, and Assumptions

Project Auditor/Evaluator Responsibilities

- First and foremost, the auditor should **"tell the truth"**
- The auditor must approach the audit in an **objective** and **ethical** manner
- Must assume responsibility for what is included and excluded from consideration in the report
- The auditor/evaluator must **maintain political and technical independence** during the audit and treat all materials as **confidential**

Project Auditor/Evaluator Responsibilities

- Steps to carry out an audit:
  - Assemble a small team of **experienced experts**
  - Familiarize the team with the **requirements** of the project
  - Audit the project **on site**
  - After the completion, **debrief** the project's **management**

Project Auditor/Evaluator Responsibilities

- Steps to carry out an audit (cont.):
  - Produce a **written report** according to a pre-specified format
  - **Distribute** the **report** to the project manager and project team for their response
  - **Follow up** to see if the **recommendations** have been **implemented**

The Project Audit Life Cycle

- Like the project itself, the audit has a life cycle composed of an orderly progression of well-defined events:
  - Project audit **initiation**
  - Project **baseline definition**
  - Establishing an **audit database**
  - Preliminary **analysis** of the project
  - Audit **report** preparation
  - Project audit **termination**

The Audit/Evaluation Team

- Typical areas that may furnish audit team members are:
  - The project itself
  - The accounting/controlling department
  - Technical specialty areas
  - The customer
  - The marketing department
  - Purchasing/asset management
  - Human resources
  - Legal/contract administration department

Access to Information

- In order for the audit/evaluation team to be effective, it must have free access to all information relevant to the project
- Most of the information needed will come from the project team's records or from various departments such as accounting, personnel, and purchasing
- **Some** of the most **valuable information** comes from documents that **predate** the **project**
- **Examples of documents** that predate the project:
  - Customer Requirements (i.e. **RFP Process)**
  - Minutes of **project selection** meetings
  - Minutes of **senior management committees** that decided to pursue a specific area of technical interest
- Priorities must be set to ensure that important analyses are undertaken before those of lesser importance

Access to Project Team and Others

- Several rules that should be followed when contacting project team and other stakeholders
  - **Avoid misunderstandings** between the audit/evaluation team and project team members
  - Project team always be made **aware** of in-progress audit
  - **Avoid Critical Comments**
    - Constructive suggestions where appropriate

Measurement

- Measurement is an integral part of the audit/evaluation process
- Performance against planned budget and schedule usually poses no major measurement problems
- Measuring the **actual expenditure** against the **planned budget** is **harder** and depends on an in-depth understanding of the procedures used by the accounting department
- Big Challenge: determine what revenues should be assigned to a project
- All **cost/revenue allocation** decisions must be made when the various **projects** are **initiated**
- The battles are fought “up front” and the equity of cost/revenue allocations ceases to be so serious an issue
- As long as **allocations** are made by a **formula**, major **conflict** is avoided-or at least, **mitigated**

Auditor/Evaluator

- Above all else, the auditor/evaluator needs "permission to enter the system"
- If the auditor maintains a calm, relaxed attitude, the project team generally begins to extend limited trust
- The first step is to allow the auditor qualified access to information about the project
- Deal professionally with information gathered, neither ignoring nor stressing the project's shortcomings
- Recognize and reinforce aspects of project's strengths
- Trust is earned during an audit even with negative findings
- Trust-building is a slow and delicate process that is easily lost

Coming back to Project Closure

What does it do?	Who's involved?	What's the benefit?
▪ Identifies what worked and what didn't ▪ Recommends ways to improve performance on future projects	▪ Project team ▪ Key stakeholders	▪ Future projects benefit from documented lessons learned
What do I do?	**What tools do they use?**	**Who can help me?**
▪ Request the Project Office to conduct a lessons learned session ▪ Provide contact information for project team members and key stakeholders	▪ Lessons Learned Survey ▪ Project Look-back Agenda ▪ Lessons Learned Report ▪ Lessons Learned – Management Report	▪ Project Office

Budget Reconciliation

What does it do?	Who's involved?	What's the benefit?
• Ensures budget tracking is complete • Provides the final reconciliation of estimated costs to actual costs	• Project manager • Business Office	• Expended funds fully accounted for • All project costs known • Provides information for estimating future projects of a similar nature
What do I do?	**What tools do I use?**	**Who can help?**
• Gather budget information from all budget sources: • Soft costs • Invoices for contractor and hard-costs • Identify budget variances by comparing actual costs to estimated costs in the project charter and approved CRs • Analyze/document reason for variance(s)	• Project Expense Tracking Template • Budget Reports • Project Completion Report	• Project Office • Business Office (budget information)

Formal Hand-over of Product or Service

What does it do?	Who's involved?	What's the benefit?
• Operationalizes product or service	• Project team • Operational support team(s)	• Product or service is supported after the project is completed
What do I do?	**What tools do I use?**	**Who can help?**
• Ensure the appropriate documents are completed and approved	• Release Checklist • OPC Checklist	• Project Office • 3rd Party Support (GIS) • OPC Team • Change Management Team • ITSM Program

Release Resources

What does it do?	Who's involved?	What's the benefit?
• Lets project staff know 'their job is done' • Lets managers know staff resources are available for other projects • Identifies release of any remaining funds held for the project • Recognizes positive job performance and identifies areas for improvement	• Project manager • Project team • Managers of project team resources • Business Office	• Resources formally available for other projects • Project team effort is acknowledged
What do I do?	**What tools do I use?**	**Who can help me?**
• Formally notify project team, managers, sponsors, Business Office of project completion • Close off contracts • Provide project team performance feedback	• Contract sign off documents • Email	• Project Office • Business Office • Supply Chain Management

Closeout meetings and paperwork

- Meeting Guidelines
  - Establish clear rules of behavior
  - Describe objectively what occurred
  - Fix the problem, not the blame Documentation
- Common Errors
  - Misidentifying systematic errors
  - Misinterpreting lessons based on events
  - Failure to pass along conclusions
- Paperwork Requirement
  - Legal
  - Cost
  - Personnel

EXAMPLE OF RESULTING DOCS

National Institute of Heart Diseases (NIHD) Rawalpindi

Ministry: Science and Technology — Financial Year 2007-2008

Project: HMIS Software, Networking and Video Conferencing of NIHD

PSDP Allocation for FY 2007-2008: Rs. 15 Million

PSDP # 86

CASH PLAN for FY 2007-08

S #	Item of Expenditure	Approved cost in PC-1	Actual Expense	Cumulative Expense	Quarterly Financial Requirements Based on Work Plan					
		in Mil	in Mil	in Mil	1st Qtr Jul-Sep	2nd Qtr Oct-Dec	3rd Qtr Jan-Mar	4th Qtr Apr-Jun	5th Qtr Jul-Sep	6th Qtr Oct-Dec
1	Video Conferencing Equipment	2.000	2.298	1.838	1.000	1.000	0.298	-	-	-
2	Networking Equipment	11.261	11.385	1.138	5.631	-	5.754	-	-	-
3	Network Planning, design & security	0.700	0.700	0.000	-	0.525	0.175	-	-	-
4	Network Installation	0.400	0.400	0.000	0.200	0.100	0.100	-	-	-
5	Computerization Equipment	3.830	4.341	4.341	1.915	0.958	1.468	-	-	-
6	Software Development	9.092	9.682	0.000	1.364	-	2.273	1.364	4.501	-
7	Training	0.400	0.400	0.150	0.200	0.100	-	0.100	-	-
8	Internet Connectivity	0.254	0.381	0.000	0.191	0.191	-	-	-	-
9	Licensed Software	2.335	3.067	0.361	-	-	-	3.067	-	-
10	Furniture and Fixture	1.020	1.020	0.476	0.765	0.255	-	-	-	-
11	Consultancy fee	1.252	1.252	0.501	0.209	0.209	0.250	0.376	0.209	-
12	Contigencies	0.980	-	0.190	0.095	0.095	-	-	-	-
	Sub Totals	33.524	34.935	8.995	11.568	3.432	10.319	4.906	4.710	-

Total Amount First + Second Quarter (Mil) =	15.000	Total Escalation =	1.411 4.2082
Total Amount Third + Fourth Quarter (Mil) =	15.225		

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Ministry of Science and Technology

Approved By: _____
P&D Div (Technical Section)

Contract Closure

What does it do?	Who's involved?	What's the benefit?
• Addresses terms of contract completion	• Project manager • Project sponsor • Client / key stakeholders • Business Office	• All contacts associated with the completed project are closed
What do I do?	**What tools do I use?**	**Who can help?**
• Reconcile contracted work to actual work completed • Identify any work not completed, identify reasons for non-completion and complete actions specified in the contract	• Approved contracts with vendors/service providers	• Project Office • Business Office • Supply Chain Management

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Project Completion Report

What does it do?	Who's involved?	What's the benefit?
• Identifies which objectives of the project were met and not met; documents reason(s) why an objective was not met • Identifies actual completion dates for key milestones • Identifies outstanding issues • Identifies budget and scope variances	• Project manager • Project team • Key stakeholders	• Clear understanding of what was and was not accomplished by the project • Outstanding issues, actions are identified and assigned or closed
What do I do?	**What tools do I use?**	**Who can help me?**
• Gather information, budget reports (or project tracking sheet), contractors invoices, vendor invoices • Refer to project charter and project plan for completion dates and objectives, include information from approved change orders	• PM2 toolkit (example) • Expense Tracking Sheet • Contracts/Invoices • Project Plan • Sign-off Forms and Guidelines • Change Requests • Issue Logs • Project Completion Report Template	• Project Office • Business Office (budget information)

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PROJECT TERMINATION

Early Warning Signs of Project Failure

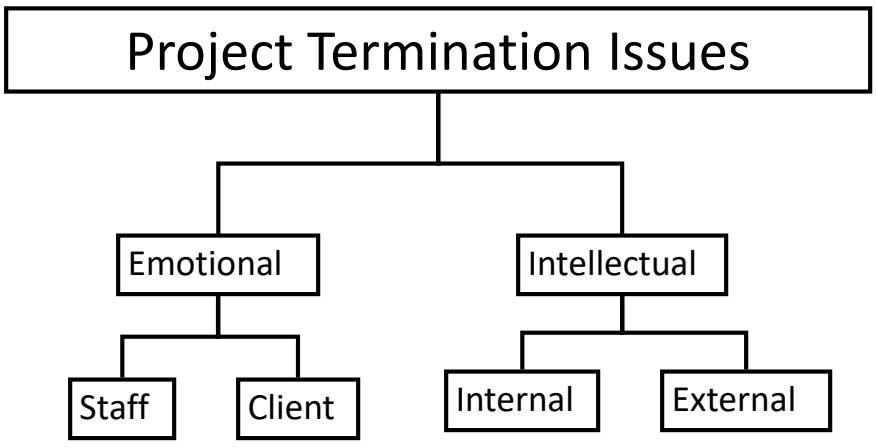
- Lack of viable **commercial objectives**
- Lack of sufficient **authority** to make decisions
- New product developed for **stable market**
- **Low priority** assigned to the project by management

Early Termination Decision Rules

- Costs exceed business benefits
- Failure to meet strategic fit criteria
- Deadlines continue to be missed
- Technology evolves beyond the project's scope

The Top 10 Signs of IT Project Failure

10. Best practices and lessons learned are ignored
9. Project lacks people with appropriate skills
8. Sponsorship is lost
7. Users are resistant
6. Deadlines are unrealistic
5. Business needs change
4. Chosen technology changes
3. Project changes are poorly managed
2. Scope is ill-defined
1. Project managers don't understand users' needs



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Claims & Disputes

- Two types of claims
  - —Ex-gratia claims
  - —Default by the project company
- Resolved by
  - —Arbitration
    - Binding
    - Non-binding
- Litigation
- Bankruptcy

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Protecting Against Claims

- Consider claims as part of the **project plan**
- **Verify stakeholders** know their risks
- Keep **good records** throughout the life cycle
- Keep **clear details** of change orders
- **Archive all correspondence**

Final Report Elements

- *Project performance*
- *Administrative performance*
- *Organizational structure*
- *Team performance*
- *Project management techniques*
- *Benefits to the organization and customer*

Summary

- We Studied
  - Project Closure
  - Project Termination
- We needed to understand
  - The sources of data collection
  - Data itself
- Next Lecture
  - SCRUM