



Bridging Cultures  
Building Understanding

## Participant Workbook

# Effective Project Management 3-Day Workshop



February 2006

*Trainer: Mr. Hazem Awad*

**TABLE OF CONTENTS**

<b>Topic</b>	<b>Page</b>
<b>DAY 1: Launching Your Project</b>	<b>3</b>
1. Introduction	4
2. What is Project Management?	12
a) Basic Definitions	
b) The Role of the Project Manager	
c) The Project Management Cycle	
3. Initiating the Project	19
a) Identifying the Key Stakeholders	
b) Setting Goals	
c) Assessing Risks and Constraints	
d) Statement of Work (SoW)	
<b>DAY 2: Planning the Project</b>	<b>31</b>
4. Planning Your Project	32
a) Generating the Work Breakdown Structure	
b) Networking the Project	
c) Estimating the Schedule	
d) Identifying Resources	
e) Establishing the Critical Path	
f) Submitting the Proposal	
<b>DAY 3: Getting the Project Done</b>	<b>50</b>
5. Monitoring and Controlling the Project	51
a) Setting Monitoring and Controlling Systems	
Solving Problems	
6. Keeping the Team on Track	58
a) Getting the Information Out	
b) Establishing Authority and Responsibility	
c) Establishing Processes and Procedures	
d) Communicating Decisions	
e) Motivating your Team	
7. Closing the Project	65
a) Shutting Down the Project	
b) Evaluating the Project	
c) Submitting the Final Report	
Personal Action Plan	70
Appendix 1: Techniques to Establish Task Duration	71
Appendix 2: Calculating Path and Float	72
Appendix 3: Key to WBS and Network Diagram Exercises	77
Appendix 4: Tools (Templates)	78

## DAY 1

### Launching Your Project

Introduction

What is Project Management?

Initiating the Project

Introduction to Microsoft Project

## **Section 1: Introduction**

### **How to Use the Workbook**

This Workbook has been designed as a learning tool to develop your skills and knowledge during the training. But skills only come through practice and application. After the training, you may be inspired and aware, but unless you act, your skills won't improve.

To help you with your progress, the Workbook is a tool for **Reflective Thinking** and a **Resource Guide**.

<p><b>Reflective Thinking</b></p>	<p>Where concepts and strategies are presented you can write your own thoughts, questions and ideas in the book. This process will help you integrate the concepts, connect them to your own experience and prepare you for action.</p>
<p><b>Resource Guide</b></p>	<p>During the training you will refer to the Workbook as a source of detailed information on the various concepts and strategies that are presented.</p> <p>After the training, the Workbook is a useful tool to refer to when you are applying skills and knowledge.</p>

**Workshop Duration:** 3 Days

### **References**

Baker, S. and K. (2000) *The Complete Idiot's Guide to Project Management*. Alpha Books (Macmillan), Indianapolis, IN, USA.

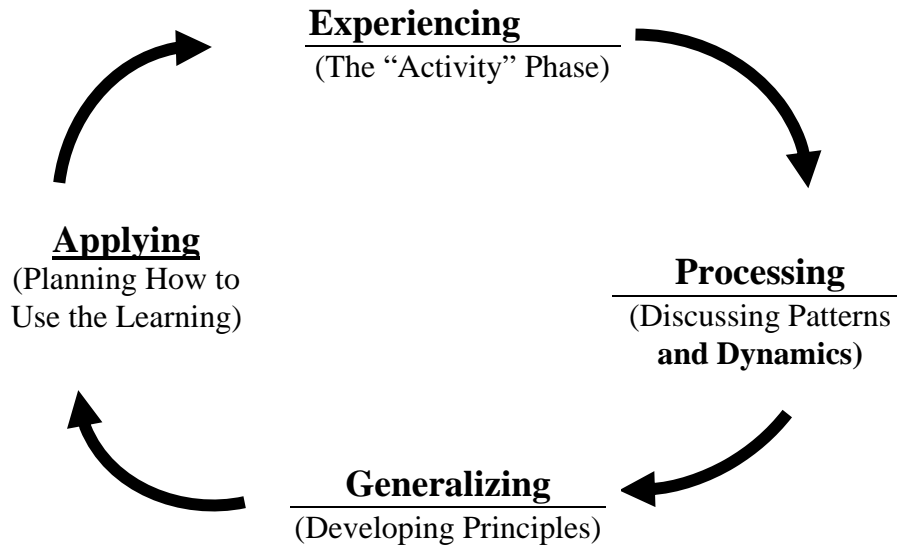
Wysocki, R.K., Beck, R. Jr., Crane, D. B. (1995) *Effective Project Management*. John Wiley and Sons, New York, USA.

## General Description

Projects are becoming the way of the working world. Computers and automation have freed people to focus on new things – new products, new services, new organizations. And where things need to get created, there is a need for projects. Unfortunately, projects can easily and quickly get out of control, leading to massive budget overruns and serious delays. Sound project management skills are an asset for today’s managers, allowing them to deliver high quality projects on time and within budget.

This course aims to teach participants skills that will make them better project managers. By the end of this course, participants will know how to initiate, plan, implement, monitor and close a project. Participants will also become familiar with Microsoft Project as a tool to assist them in managing projects. Finally, participants will be able to reflect on their experience managing projects, learning to build on their strengths and identify areas for improvement.

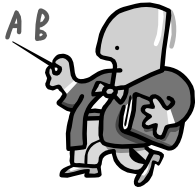
## The Experiential Learning Model



### Stages in the Experiential Learning Cycle

- Experiencing:** this is the initial stage in the cycle and the basis for the entire process; involves a self-assessment or interpersonal interaction where participants behave, observe, say something
- Publishing:** having experienced an activity, participants are now ready to share or publish what they have observed and/or how they felt during the experience
- Processing:** this stage involves the integration of sharing; exploring, discussion and evaluation (internalized processing)
- Generalizing:** the key question at this point is “so what?” Participants begin to develop principles, extract generalizations from the experience that they can relate to their back-home situations
- Applying:** in this final stage, participants are helped to apply principles to actual situations in which they are involved. The experiential process is not complete until a new learning is used and tested behaviorally

## Role of the Trainer



What do you expect from the trainer over the course of this workshop?

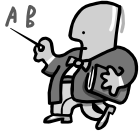
## Role of the Participant



**What do you, as the participant, expect to be responsible for?**



## THE ROLE OF THE TRAINER...



- To present theory and relevant information
- To be a resource person throughout the workshop
- To provide you with feedback
- To keep personal and professional information confidential
- To share responsibility with you in facilitating group interactions and establishing group rules

## THE ROLE OF THE PARTICIPANT...



- To evaluate the workshop from the beginning
- To participate in your own way
- To assume and share leadership whenever it feels right for you
- To arrive on time and attend all three days
- To provide feedback
- To share your ideas and resources
- To ask for clarification and elaboration when things are unclear or of interest to you
- To help facilitate the learning in the group
- To respect the need for confidentiality in the group

## Learning Expectations



**By the end of this workshop, what do you expect to be able to do?**

## LEARNING OBJECTIVES



**By the end of this workshop, participants will be able to:**

- Define the Project Management cycle
- Initiate a project by
  - identifying key players
  - setting clear goals
  - assessing the project's risks
  - producing a Statement of Work (SoW)
- Plan a project by:
  - generating a Work Breakdown Structure
  - identifying necessary resources
  - scheduling the tasks
  - building a project network
  - defining the critical path
- Implement a project by:
  - establishing processes and procedures
  - organizing the work team
- Monitor and control a project by:
  - establishing monitoring systems
  - identifying problems and planning for contingencies
- Close the project by:
  - dismantling the elements
  - analyzing the project
  - producing a final report
- Set personal goals to become a better project manager

## **Section 2: What is Project Management?**

### **A. BASIC DEFINITIONS**

#### **What is a Project?**

Look at the list below. In your opinion, how do projects differ from regular, on-going work? What is your definition of a project?

Ordinary Work	Projects
<ul style="list-style-type: none"> <li>➤ Responding to a customer's request</li> <li>➤ Writing a letter to a prospect</li> <li>➤ Hooking up a printer to your computer</li> <li>➤ Meeting to discuss a new procedure</li> <li>➤ Making a sales call</li> <li>➤ Attending a conference</li> <li>➤ Writing a progress update memo</li> </ul>	<ul style="list-style-type: none"> <li>➤ Producing a monthly newsletter</li> <li>➤ Implementing a company-wide computer network</li> <li>➤ Hiring a sales team for the new office in Alexandria</li> <li>➤ Producing the annual corporate report</li> <li>➤ Promoting your product in a two-week trip across the country</li> </ul>

A project is...

A **project** is a sequence of unique, complex, and connected activities having one goal or purpose and that must be completed by a specific time, within budget, and according to specification.

**When a project gets done, something exists that didn't exist before.**

Characteristics of a Project	Your Notes
<ul style="list-style-type: none"> <li>➤ Has a beginning and an end</li>   <li>➤ Uses resources (people, time and money) specially allocated to the work</li>   <li>➤ Produces a unique outcome</li>   <li>➤ Follows a planned approach to meet an objective</li>   <li>➤ Usually involves a team of people</li>   <li>➤ Has a unique set of key stakeholders</li> </ul>	

## What is Project Management?

**Project management** is a discipline of combining systems, techniques, and people to complete a project within established goals of time, budget and quality.

## B. THE ROLE OF THE PROJECT MANAGER

Why do you think so many projects fail?

What, in your opinion, is the role of the project manager?

The **Project Manager** is the person who takes overall responsibility for coordinating a project, regardless of its size; to make sure the desired end result comes in on time and within budget.

<b>The Role of the Project Manager</b>	<b>Your Notes</b>
<ol style="list-style-type: none"> <li>1. Gain consensus on project outcomes</li> <li>2. Build the best team you can</li> <li>3. Develop a comprehensive viable plan and keep it up-to-date</li> <li>4. Determine how much stuff you need to get things done</li> <li>5. Have a realistic schedule</li> <li>6. Don't try to do more than can be done</li> <li>7. Remember that people count</li> <li>8. Gain the formal and on-going support of management and key stakeholders</li> <li>9. Be willing to change</li> <li>10. Keep others informed of what you're up to</li> <li>11. Be willing to try new things</li> <li>12. Be a leader!</li> </ol>	

## Are You Managing Your Projects Effectively?

To determine if you can benefit from the use of good management techniques, answer Yes, No or I don't Know (?) to the following questions.

Yes	No	?	I have identified and named all the current projects in my area of responsibility.
Yes	No	?	All of the projects are prioritized.
Yes	No	?	All the projects have clear, agreed upon goals and initiatives.
Yes	No	?	All the projects are scheduled in writing.
Yes	No	?	All the projects have approved budgets.
Yes	No	?	All of the projects have adequate resources for completion.
Yes	No	?	All the people and vendors involved with the projects are appropriately skilled and adequately trained to complete project work.
Yes	No	?	Potential conflicts with other projects are easily identified because of clear project plans and open communications.
Yes	No	?	The potential problems in my projects are easily identified in advance and actions are consistently taken to eliminate or minimize them.
Yes	No	?	All the people working with me on projects are enthusiastic and committed to work.
Yes	No	?	Other project participants willingly respond to requests related to the projects I am coordinating.
Yes	No	?	When project disagreements and conflicts arise, effective agreements are reached quickly and with minimum disruption to the work flow.
Yes	No	?	I am always clear on the current status of the projects I am involved with.
Yes	No	?	Project changes are clearly communicated on a regular basis and always understood by project participants.
Yes	No	?	My projects are consistently completed on time, within budget, and to specification.



**Your Score:**

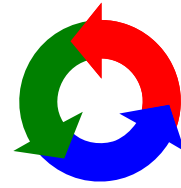
Total your score. “No” and “I don’t know” get no points. Give yourself one point for each “Yes” answer.

Your Score: \_\_\_\_\_

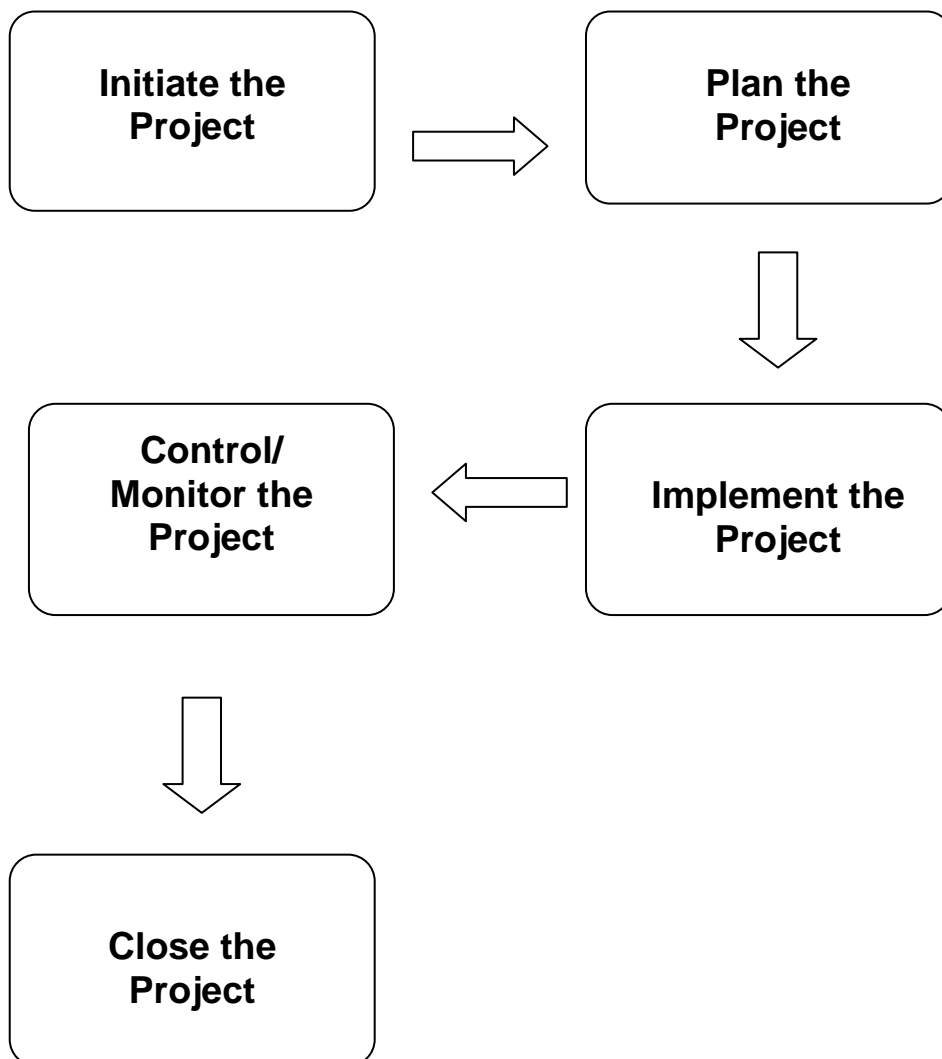
If you scored 13 to 15 points, congratulations – you are an excellent project manager, though you may still discover useful techniques in this workshop. If you scored 9 to 12 points, you are doing okay, but there are definite areas that could be improved. If you scored below 9, you are honest about your project management skills and the state of project management in your company. By following the guidelines outlined in this workshop, you will be able to better manage projects in your company.



## C. THE PROJECT MANAGEMENT CYCLE



All projects go through the same “life cycle”, a set of predictable stages that start with an idea to do something and end with the delivery of a complete project that meets its goals for quality and performance.



## **Section 3: Initiating the Project**

### **Practice Case: Best Training Center**

You are the Training Coordinator for Best Training Center. The Center Director has just asked you to organize the delivery of a new 3-day course in Project Management. This course will be funded through a \$10,000 grant from the Business Development Foundation (BDF). The course is to be offered to managers working in the non-profit sector. BDF would like the course to be held before September 15, 2003. The earliest you can start work on this project is August 1, 2003. You must determine whether you can bring in this project on time, and within budget.

#### **Tasks and Resources**

Yesterday, you brainstormed a list of tasks you'll need to perform to deliver this new course. You also identified the people in your organization who can help you: the Marketing Coordinator, your secretary, the printer, and the instructor. They can all work on this project full time. Assume that interdependent tasks are on a Finish to Start dependency, and that all tasks should be started as soon as possible.

<b>Task</b>	<b>Duration (days)</b>	<b>Assigned to</b>
Develop an outline	1	Instructor
Design a flyer	2	Marketing Coordinator
Print the flyer	5	Printer
Book a room	1/2	Secretary
Book equipment	1/2	Secretary
Mail the flyer	1	Secretary
Follow up with clients on registration	1	Training Coordinator
Develop participant workbook	5	Instructor
Develop trainer manual	1	Instructor
Finalize the list of participants	1	Secretary
Photocopy workbook and manual	1	Secretary
Administer training	3	Instructor
Develop course evaluation form	1	Training Coordinator
Administer course evaluation	1/2	Secretary
Tabulate course evaluations	1	Training Coordinator
Write a course report	1	Instructor
Produce final report for clients	1.5	Training Coordinator
Meet with clients for post-course feedback	2	Training Coordinator
Revise the course as needed	2	Train. Coord., Instructor

**Costs**

The rates for the each of the employees assigned to the project are as follows:

Training Coordinator:	\$25/hr	Marketing Director:	\$25/hr
Instructor:	\$25/hr	Secretary:	\$15/hr

Other costs associated with the project are:

Photocopying the work book:	\$200	Designing the flyer:	\$100
Printing the flyer:	\$200	Mailing the flyer:	\$100

## A. IDENTIFYING THE KEY STAKEHOLDERS

Projects are deemed successful because the key stakeholders are satisfied with the outcomes. Your first task as Project Manager is therefore to identify the key stakeholders and their interests.

The key stakeholders in a project are usually:

<b>Project Manager</b>	Leads the project; plans, monitors, tracks, controls, documents, and reports project activities.
<b>Sponsor (a customer representative or a functional manager)</b>	Provides authority for project to proceed; guides and monitors the project in partnership with the project manager; key organizational advocate for the project.
<b>Core Implementation Team</b>	Provides skills, expertise, and effort to perform the tasks defined for the project; assist with the planning and with estimating project tasks
<b>Customer (may be internal or external)</b>	Establishes the requirements for the project; provides funding; reviews the project as milestones and deliverables are met.
<b>Functional Managers</b>	Establish company policy; provide resources; some will provide review and approval authority.

*Note: The Project Manager is responsible for completion of the project and defines what the tasks are, the start date, and what money will be spent. The Functional Manager is responsible for allocating resources and defines who will do it, how it will be done, and how much it will cost.*

### Discussion

In the case study above, who are the key stakeholders? What will each be expecting?

## B. SETTING GOALS

Goals are the heart, mission, and purpose for initiating a project. In the simplest view, goals are the specification of what you hope to achieve at the end of the project. **Goals** consist of specific, measurable, agreed upon, realistic and timely aims.

**Some goals are common to all projects:**

- ⇒ **Goal 1: Complete the project on time**
- ⇒ **Goal 2: Complete the project within budget**
- ⇒ **Goal 3: Complete the project according to specifications**

In setting your goals, you should follow these five criteria:

SMART Goals	Your Notes
<b>S</b> pecific	
<b>M</b> easurable	
<b>A</b> ssignable	
<b>R</b> ealistic	
<b>T</b> ime-related	

All of the following goals fail to meet at least one of the criteria above. Rewrite each goal into a SMART goal:

a) Organize a conference

---



---

b) Increase sales and productivity

---



---

c) Downsize the company by 60% within the next month

---

---

d) Produce a newsletter a few times this coming year

---

---

**Write down your goal for this project:**

**Remember!**

**The best goals are written down. Written goals are a powerful consensus builder among key stakeholders. They also allow you to communicate the work to the team.**



## C. ASSESSING RISKS AND CONSTRAINTS

Identifying risks and constraints early on will allow you to anticipate problems and thus better manage your project.

### Risk vs. Constraint

A **risk** involves an uncertain, undesirable event that can impact negatively on the success of your project. A **constraint** is a *known* factor that limits your ability to carry out the project successfully.

### Assessing Constraints

Constraints help to frame the scope of your project. Examining the constraints that you face will allow you to assess whether the project is feasible. For instance, when you are asked to open a new sales office in Tanta with a budget of 1000 LE, you know it's time to negotiate for more or kill the project.

The most typical constraints facing a project are outlined in the table below:

Constraints	Your Notes
<p><b>Budget:</b> Know how much you need, and how much you have. Do not expect to need less, and do not expect to get more.</p> <p><b>Schedule:</b> Know how much time you have, and remember that time waits for no one!</p> <p><b>People:</b> No matter how great a team you envision, you will ultimately have to work with who is available.</p> <p><b>Facilities and Equipment:</b> Again, you will have to work with what is available.</p> <p><b>The Real World:</b> Once a project is underway, the interaction of money, scheduling and people is never as smooth as anticipated. Plan for that.</p>	

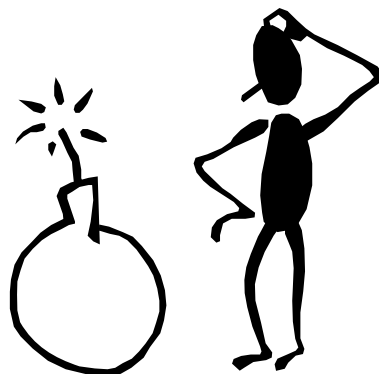


## Assessing Risks

There are basically three types of risks you will face:

- **The known risks:** these are the risks you can identify after reviewing the project definition within the context of the business environment. For example, in planning a conference in July in Marsa Matruh, a known risk is that few hotels will be available in this peak period. To identify those, you must draw on your experience and that of the key stakeholders.
- **The predictable risks:** these are risks that might occur and that you can identify based on past projects. Instinct usually tells us about these risks. For example, in planning the same conference, a predictable risk is that your materials might get lost in shipping.
- **The unpredictable risks:** There might be an earthquake during your conference. This, you can do nothing about!

Identifying risks in advance, and anticipating their impact on the project, will allow you to assess the project's feasibility. As well, knowing the risks in advance allows you to plan contingencies so that negative events do not have to delay or kill a project. This is what is referred to as **risk management**.



Risk management involves the following steps:

Steps for Risk Management	Your Notes
1. <b>Identify the risks</b>	1. With the key stakeholders, brainstorm a list of the risks you anticipate. Assume that anything can go wrong.
2. <b>Analyze the probability that the risk will occur, and its potential impact on the project</b>	2. Assign the list a ranking on a scale of 1 to 10.
3. <b>Determine the overall importance of the risk</b>	3. Multiply the probability rank by the impact rank.
4. <b>Determine which risks need further action, or contingencies</b>	4. Usually, risks ranked above 40 should receive further attention.
5. <b>Document a response plan for the risk</b>	5. You can: <ul style="list-style-type: none"> <li>- accept the risk</li> <li>- avoid the risk</li> <li>- monitor the risk and develop a contingency plan</li> <li>- transfer the risk</li> </ul>

***If a project seems too risky, or if the impact of probable risks is too severe, then it may be best to avoid the project altogether.***



**Example - Organizing a Conference**

<b>Description of the Risk</b>	<b>Affected Component</b>	<b>Probability of the Risk (1 to 10)</b>	<b>Impact of the Risk (1 to 10)</b>	<b>Severity of the Risk (Probability x Impact)</b>	<b>Plan of Action</b>
Fail to find adequate facilities for planned dates	Schedule, Budget	5	10	50	Delay conference; increase budget
Fail to generate sufficient interest	Budget, resources	2	8	16	Focus on promotion and communication ; monitor registration
Planned key note speakers not available	Resources	4	8	32	Generate back up possibilities
		<b>Overall probability: 11/3 = 4</b>	<b>Overall impact: 26/3 = 9</b>	<b>Overall risk: 36</b>	

## Practice

Brainstorm some risks that could affect the success of your project. Record them in the chart below, and assess the overall risks associated with your project.

<i>Description of the Risk</i>	<i>Affected Component</i>	<i>Probability of the Risk (1 to 10)</i>	<i>Impact of the Risk (1 to 10)</i>	<i>Severity of the Risk (Probability x Impact)</i>	<i>Plan of Action</i>
		<b>Overall probability:</b>	<b>Overall impact:</b>	<b>Overall risk:</b>	

## D. Statement of Work

Once you've identified goals, key stakeholders, and risks, you should create a description of the scope of the project based on those factors. This description is called a Statement of Work, Work Order, or Scope of Work.

A typical statement of work (SoW) will have a format similar to the following:

### Sample Statement of Work

<b>Customer</b>	
<b>Service Provider</b>	
<b>Project Name</b>	
<b>Background</b>	
<b>Scope / Requirements</b>	
<b>Deliverables</b>	
<b>Schedule</b>	
<b>Constraints / Assumptions</b>	
<b>Budget</b>	
<b>Customer Responsibilities</b>	
<b>Change Control</b>	
<b>Reporting Procedures</b>	

<b>Customer signature :</b> <b>Printed name :</b> <b>Date :</b>
<b>Provider signature :</b> <b>Printed name :</b> <b>Date :</b>

(Note: For an example of a completed SoW, please see the Tools section at the back of the workbook.)

## Introduction to Microsoft Project

Refer to the Microsoft Project Instruction Manual to:

- Familiarize yourself with the main features of Microsoft Project
- Learn to create and manipulate files in Microsoft Project
- Learn to create and customize calendars in Microsoft Project

## DAY 2

### Planning Your Project

Work Breakdown Structure

Project Networks

Identifying Resources

Scheduling the Project

## Section 4: Planning Your Project

### A. GENERATING THE WORK BREAKDOWN STRUCTURE

#### The Task List

The first step of planning consists of breaking your project down into tasks. It is often argued **that this is the single most important part of a project** because all subsequent parts of the plan will rest on it.

Identifying the tasks will allow you to:

- Break down the project into more manageable chunks
- Create a logical completion sequence for your project
- Identify and understand the work sequences
- Determine the skills and the number of people required
- Communicate the work to your team

Creating a Task List	Your Notes
<ol style="list-style-type: none"> <li>1. Review the goals and the deliverables.</li> <li>2. Brainstorm all the tasks required for completion of the project.</li> <li>3. Review the list:               <ul style="list-style-type: none"> <li>- tasks should be unambiguous;</li> <li>- each task should represent ONE unit of work, with a beginning and an end, and no gaps in the middle;</li> <li>- each task should meet the 8/80 rule.</li> </ul> </li> <li>4. Organize the tasks by activity area.</li> <li>5. Integrate the tasks into a total system, with a beginning and an end.</li> <li>6. Verify that completion of the tasks will result in attainment of all the project goals.</li> </ol>	<p><i>The 8/80 rule means that each task should require between 8 hours (1 day) and 80 hours (10 days) of work. Any task that is shorter is a sub-task; any that is longer is a sub-project.</i></p>



## Practice

Refer to the tasks outlined presented in the Case Study, on page 19. Using Microsoft Project, create a task list for your project.

## The Work Breakdown Structure

Once the task list is complete, you need to organize it into a **Work Breakdown Structure (WBS)**. The WBS is a hierarchical chart used to organize the tasks of a project into related areas. It often is completed as a tree diagram or as an outline. In the WBS, milestones and tasks are clearly defined. The completed WBS can be used for budgeting and personnel-selection purposes, as well as scheduling and network diagramming.

**The WBS accomplishes the following:**

- **Provides an overview of the project's milestones**
- **Organizes the project into a clear hierarchy of milestones, subprojects, and tasks (for more complex projects).**
- **Indicates the relationship between milestones and their individual components**

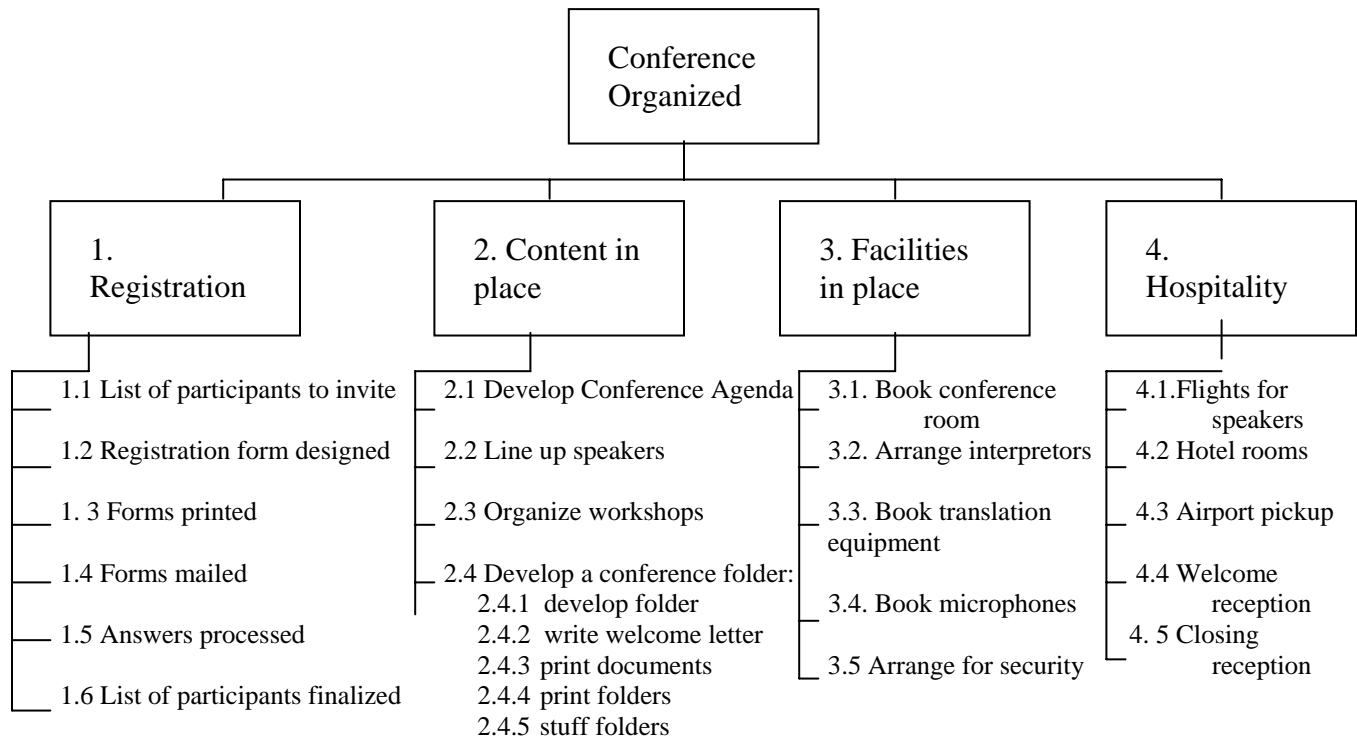
Although the example provided on the next page uses a functional approach, the WBS can be based on any of the following formats:

WBS Formats	Your Notes
<ul style="list-style-type: none"> <li>➤ <b>Functional or technological:</b> The WBS is drawn in terms of functions that need to be performed. What is required in each phase of the project?</li> <li>➤ <b>Organizational:</b> The WBS follows the structure of the organization. What is the reporting structure? Who will perform which task?</li> <li>➤ <b>Physical location:</b> In cases where teams will work from different locations, the WBS can be organized along geographical locations.</li> </ul>	

**Practice**

Refer to the example on the next page.

- a) On this page, create a WBS for the Case Study on page 19.
- b) Create a task outline in Microsoft Project, using your WBS as a reference.
- c) Create milestones where appropriate.

**Example of a WBS:*****Project: Organizing a Conference***

## B. NETWORKING THE PROJECT

### Function of the Network Diagram

Once the WBS is in place, the Project Manager should develop a Network Diagram. The **Network Diagram** is the logical representation of tasks that define the sequence of work in the project.

Function of the Network Diagram	Your Notes
<ul style="list-style-type: none"> <li>➤ Show the sequence and relationships among the tasks</li>   <li>➤ Identify the relationships of milestones in the project that can be used to monitor progress and completion</li>   <li>➤ Show the interrelationships of tasks in different parts of the task list and WBS hierarchy</li>   <li>➤ Establish a vehicle for scheduling tasks</li>   <li>➤ Help reduce uncertainty in the project by organizing it into clear, logical, sequential steps</li> </ul>	

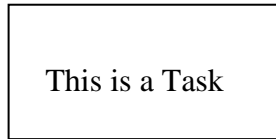
## Creating the Network Diagram

By convention, most network diagrams start with a box labeled “Start Project” and end with a box labeled “Project Finished”. The network diagram is then designed through these five steps:

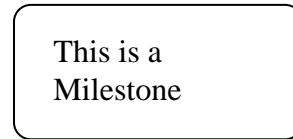
Steps for a Network Diagram	Your Notes
<p><b>Step 1:</b> List the tasks, using the WBS</p> <p><b>Step 2:</b> Establish the interrelationships between the tasks</p> <ul style="list-style-type: none"> <li>- What tasks must precede this task?</li> <li>- What tasks follow this task?</li> <li>- Which tasks can be conducted in parallel (at the same time)?</li> </ul> <p><b>Step 3:</b> Identify the Milestones</p> <p><b>Step 4:</b> Lay out the tasks and milestones as a network</p> <p><b>Step 5:</b> Review the logic of the network</p>	

## Symbols and Conventions for Network Diagrams

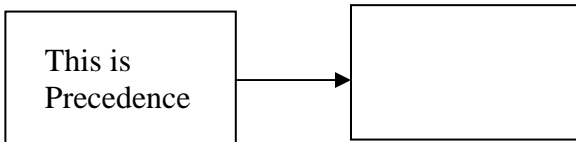
a)



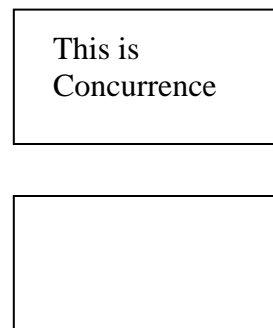
b)



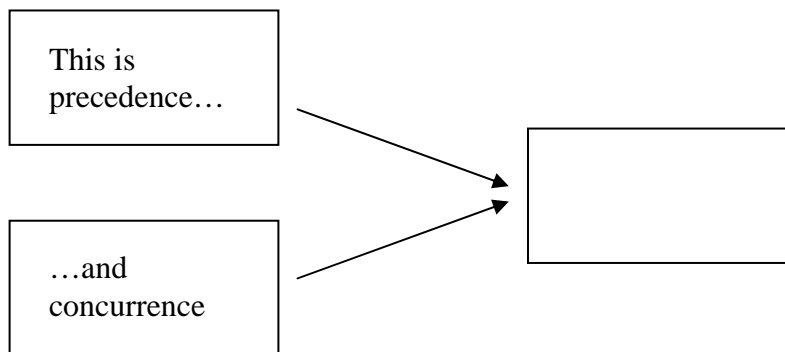
c)



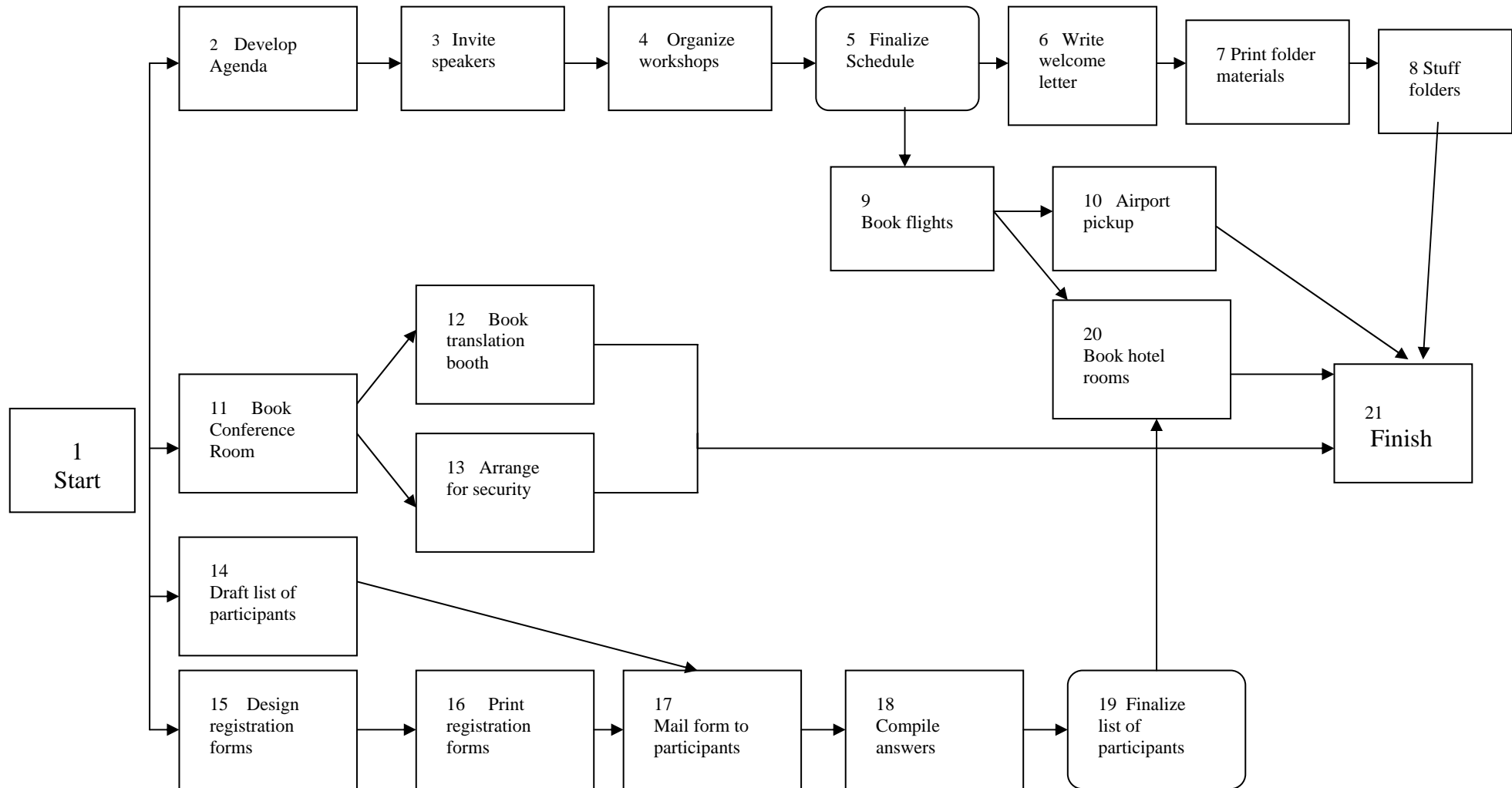
d)



e)

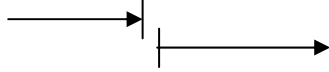
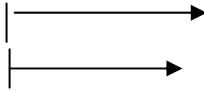
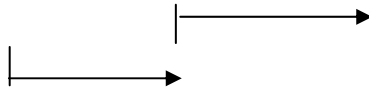
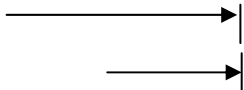


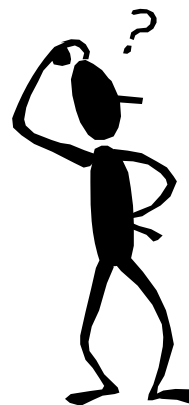
**EXAMPLE OF A NETWORK DIAGRAM**



## Understanding Complex Task Interdependency

In more complex projects, task interdependency is not as simple as finishing one task before beginning another. There are four generally recognized types of interdependency:

Type of Interdependency	Definition
<b>Finish to Start</b>	Task 1 must finish before Task 2 may start 
<b>Start to Start</b>	Task 2 may start once Task 1 has started 
<b>Start to Finish</b>	Task 2 must finish before Task 1 can start 
<b>Finish to Finish</b>	Task 2 must finish once Task 1 has finished 

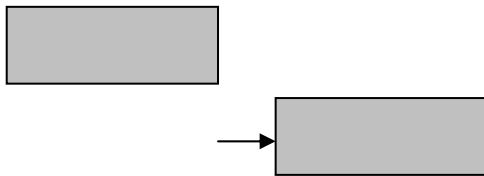




**WARNING!**

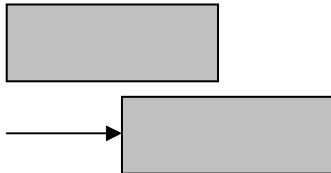
The same expressions are also used to describe time lags in the following manner:

a)



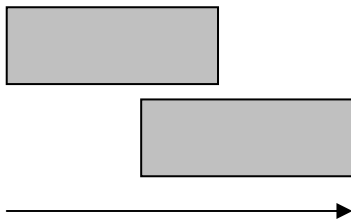
**FINISH TO START:**  
The amount of time  
between the finish of Task  
1 and the start of Task 2

b)



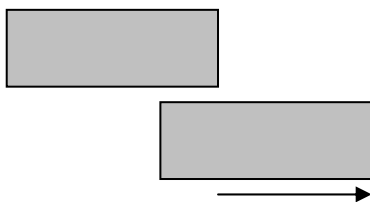
**START TO START**  
The amount of time  
between the start of Task  
1 and the start of Task 2

c)



**START TO FINISH**  
The amount of time  
between the start of Task  
1 and the finish of Task 2

d)



**FINISH TO FINISH**  
The amount of time  
between the finish of  
Task 1 and the finish  
of Task 2

## The WSB and the Network Diagram

How are the WSB and the Network Diagram different? Why are both needed?

### Practice

Create a network diagram for the tasks outlined in the Case Study on page 19. Then, enter the task dependencies and task constraints in Microsoft Project. Review the dependency links and the milestones.

## C. ESTIMATING THE SCHEDULE

In order to plan the duration of your project, and estimate its cost, project managers must also estimate the duration of each task to be performed. There is no magic way of estimating the duration of each task; it is mostly based on experienced guessing! There are, however, a few approaches you can take to ensure that your “guestimations” are fairly accurate; these can be found in Appendix 1.

Before you estimate the duration of tasks, you should be clear on the distinction between:

***Dedicated Time:*** the actual amount of time it takes to perform the task (or the task effort)

***Calendar Time:*** how long the task will actually take to perform in REAL time (or the task duration), keeping in mind other commitments, work activities, resources available and constraints.

In scheduling your project, you are more concerned with task duration (calendar time) than with task effort.

## Gantt Charts

Gantt charts are valuable scheduling tools in that they allow you to visualize the time line for your project from beginning to end. Each line on the Gantt chart represents a task, showing its beginning and end dates based on its precedence and duration.

One of the crucial steps in creating a meaningful Gantt Chart is to choose a suitable time unit. Will task duration be calculated in hours, days, or months? This decision should be based on the scope and overall estimated duration of the project – the longer the project, the larger the time unit you should choose.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Display start and end date for each task</li> <li>• Display a complete project time line</li> <li>• Display “task float” and “start to finish” information</li> <li>• Allow easy tracking of progress</li> <li>• Allow easy communication of the project schedule</li> </ul>	<ul style="list-style-type: none"> <li>• Do not reveal interdependency of tasks</li> <li>• Make it difficult to calculate the critical path</li> </ul>

## D. IDENTIFYING RESOURCES

Resources should be identified **after** preparing the WBS. The reason for this is that it is easier to identify the resources you'll need once you have determined what needs to be done. As well, the resources at your disposal will affect how long each task will take: more people, more money and more equipment usually mean that tasks can be performed over a shorter period of time.

Typically, a project will draw from 7 types of resources:

- People
- Money
- Equipment
- Facilities
- Materials and supplies
- Information
- Technology

***The two questions you need to ask are:***

***What resources do I need for each task?***

***What resources do I have at my disposal for each task?***

***If you do not have enough resources to meet your needs, you should negotiate for more. Do not agree to fewer resources than you actually need – this could jeopardize the project's success.***

### Practice

Referring to the Case Study on page 19, identify the resources at your disposal. In Microsoft Project, enter your resources and work assignments.

## Equipment and Supplies Worksheet

Required	Responsible Person or Supplier	How Much is Needed?	When is it Needed?	Check if available
<b>MATERIALS:</b> a) b) c) d) e)				<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>EQUIPMENT</b> : a) b) c) d) e)				<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>SUPPLIES:</b> a) b) c) d) e)				<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>FACILITIES:</b> a) b) c) d) e)				<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>OTHER:</b> a) b) c) d) e)				<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

## Matching People to Jobs

In order to choose the best people for your project, you should first draw up skills requirement and skills inventory worksheets similar to these:

### Skills Requirements Worksheet

**Project: Conference**

WBS	Tasks	Skills Required	Experience and/or Degree
1.2 2.4.1	Design of Registration Form Design of Folder	- Graphic Design - Use of appropriate graphic design software - Experience with designing promotional materials	- Graphic Design Degree - Strong portfolio
1.3 2.4.3 2.4.4.	Print registration forms Print folders document Print folders	- Knowledge of printing process - Negotiation skills - Meticulous	- Experience coordinating printing jobs

### Skills Inventory Worksheet Conference

**Project:**

Name	Category	Current Job	Skills	Experience/ Degrees
Tarek E.	Graphics Department	Designer	- Software - Supervision of junior staff - Comes in on time and under budget	- B.A. in Design - Worked on the 1998 and 1999 conferences
Hala R.	Marketing	Jr. Marketing Officer	- Promotions - Good interpersonal relationships - Good under stress	- B.Comm Marketing - Produced 15 marketing packets

You should then consider the inventory of staff you have available, and match their skills to the skills required for the various tasks. It may be necessary to recruit outside of your organization for certain tasks.

***Be careful not to overload some valuable members of your organization with too many tasks to fulfill – this would not only be unfair to them, it may jeopardize your project.***

## E. ESTABLISHING THE CRITICAL PATH

The **Critical Path** is the path on your network diagram that shows the longest duration of the project (i.e. the longest sequence of tasks that share an interdependent relationship); because the tasks on the critical path must be executed in sequence, the critical path also establishes **the minimum amount of time in which your project can be completed**. The delay of any task on that path will delay the whole project. Establishing the critical path can also help you identify float time in your project.

### Calculating the Path and Float

While any project management software will calculate the critical path and project float for you, it is useful to understand how the results are arrived at. This can be done using the worksheet in Appendix 2.

#### Practice

Calculate the Critical Path for your project using Microsoft Project.

## F. SUBMITTING THE PROPOSAL

The **project proposal** is the deliverable from the detailed planning phase. As such, it states the complete business case for the project. This includes expected business value as well as cost and time estimates.

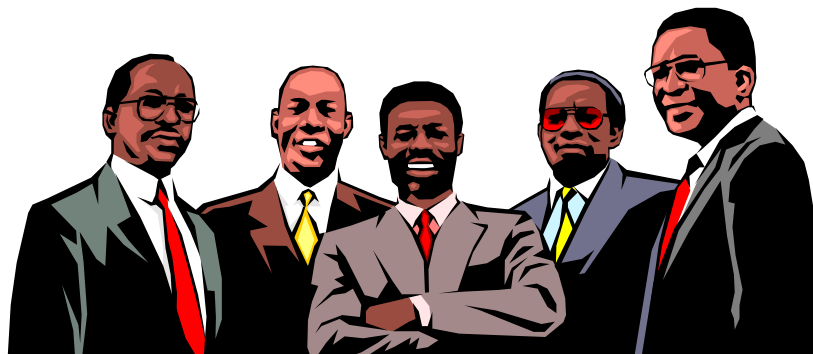
Contents of the Project Proposal	YOUR NOTES
<p><b>1. Executive Summary:</b> Provide a brief overview of the project, its aims, and its projected outcomes.</p> <p><b>2. Objective:</b> State what should be accomplished by the project. Use active language, and outline measurable outcomes.</p> <p><b>3. Assumptions and Risks:</b> Clearly outline these to ensure that they are understood and accepted by the key stakeholders.</p> <p><b>4. Milestones:</b> If your project is long or complex, outline the significant steps towards reaching the goals.</p> <p><b>5. Work Breakdown Structure and Network Diagram</b></p> <p><b>6. Resources:</b> Include all resources including personnel.</p> <p><b>7. Budget Details</b></p> <p><b>8. Reporting Structure and Operating Procedures:</b> Outline the lines of authority and state how the project will be monitored.</p> <p><b>9. Assessment and Review:</b> Indicate how the project will be evaluated once it is completed. What will be the success criteria? What actions will be taken to ensure the continued success and relevance of the deliverables?</p>	



**Remember!!!**

**You must get your proposal approved by all key stakeholders.**

**This will ensure consensus on the standards, resources and costs for the project (and will save you many headaches!)**



## DAY 3

### Getting the Project Done

Monitoring and Controlling the Project

Keeping the Team on Track

Closing the Project

## **Section 5: Monitoring and Controlling the Project**

### **A. SETTING SYSTEMS**

Project managers fall into three basic categories: those who watch what happens, those who make things happen, and those who wondered what happened. Setting up proper systems for controlling and monitoring your project should ensure that you don't fall into the last category!

#### **Controlling Your Project**

How you use your reports and communications to control your project will directly affect the end results your project will achieve. Achieving positive control of your project involves:

- Using the project plan as your primary guide
- Monitoring and updating the plan
- Keeping lines of communication open
- Getting involved
- Adapting the project schedule, budget and work plan as necessary to keep the project on track.
- Documenting progress and change

#### **Remember!!!**

Changing any aspect of the project involves changing ALL aspects of the project.

For example, if you are asked to deliver the project earlier than expected, you'll have to spend more money or compromise on quality.

#### **Practice**

Microsoft Project can assist you in performing some of the tasks outlined above. Following the instructions in your Microsoft Project manual, practice the following skills:

- a) identify resource over-allocations and level your resources accordingly.
- b) analyze the critical path for inefficiencies, and shorten it.
- c) set the baseline for your project.

## What Should You Monitor?

As previously discussed, project management is about delivering planned outcomes on time, within budget, and with specifications. As project manager, it is your job to monitor the project so that it accomplishes these objectives.

Monitoring a project involves keeping track of many activities and project levels. Look at the list below. Which do you feel are the most important?

- The status of work being performed compared to the plan.
- The volume of work being completed
- The use and availability of resources
- The quality of work being performed
- The costs and expenditures as compared to the plan
- The attitudes of people working on the project or involved with the project including customers and managers
- The cohesiveness and cooperation of team members

### Practice

Following the instructions in your Microsoft Project manual, practice making updates to the work in progress. Examine the effects of these changes on your baseline and on your critical path.



## What Should Monitoring Accomplish?

The tasks, milestones, and budget you documented in the project plan should be the starting point for establishing monitoring and control systems. Project monitoring should accomplish the following basic functions:

- Communicating project status and changes to team members
- Informing key stakeholders about the status of the project
- Providing justification for making adjustments
- Documenting current project plans compared to the original project plan

### Remember!!!

Monitor consistently, and throughout the project.

Inexperienced project managers may start out full of energy and monitor the project closely in the beginning. When all seems to be going well, they let their guard down. That's when problems typically start to emerge.

### Practice

In Microsoft Project, view the different types of reports that you can generate to update key stakeholders on your progress. Using these examples, state the advantages and disadvantages of the reporting tools listed on the next two pages. Determine which you find the most useful, and why.

## How Can You Monitor Progress?

MONITORING TOOLS	ADVANTAGES	DISADVANTAGES
<p><b>Status Reports:</b> Team members should report on progress regularly. The project manager is in charge of compiling and summarizing the status reports for key stakeholders. He/she should also present conclusions and recommendations for action and change.</p>		
<p><b>Project Review Meeting:</b> Meetings can be used to resolve issues, discuss project status and review performance towards objectives. Meetings can be held at major milestones, or on a periodic basis.</p>		
<p><b>Project Audit:</b> This process examines all aspects of a project at a point in time, and is usually performed by an outsider. It provides an accurate picture of the quality of work, current expenditures, and scheduling. Auditors then report their findings and recommendations to the project manager and/or management.</p>		

MONITORING TOOLS	ADVANTAGES	DISADVANTAGES
<p><b>Expenditure reports:</b> These allow you to account for all monetary commitments as they occur, and to compare them to your original plan.</p>		
<p><b>Information from the Project Team:</b> Everyone on the team should be involved in monitoring what is going on. Talk to people and LISTEN to their ideas.</p>		
<p><b>Information from Outsiders:</b> This process allows you to gather feedback from suppliers or other managers as to how your team is doing.</p>		

## B. SOLVING PROBLEMS

Careful planning will certainly reduce the risk that problems will arise during the implementation phase of your project, but problems are inevitable. They will arise, and as project manager, you should be able to recognize and address them before they put your project in jeopardy.

Common Problems	Possible Solutions
<p><b>1. Floating Start Date:</b> Some projects never get off the ground because other priorities get in the way.</p>	
<p><b>2. Lack of time:</b> Things always take longer than anticipated, and there is never enough time to get it all done. It is likely that your project will fall behind schedule at some point.</p>	
<p><b>3. Too Many Reports, No Real Communication:</b> It may seem that you are receiving and producing an endless quantity of report, yet some people are still falling behind, going over budget, or not respecting specifications.</p>	
<p><b>4. Early Delivery Date:</b> Key stakeholders request that the project be completed earlier than planned.</p>	



Common Problems	Possible Solutions
<p><b>5. 90% Syndrome:</b> The project is 90% done and yet does not seem to want to come to an end.</p>	
<p><b>6. Changes in Objectives:</b> Key stakeholders request changes in the deliverables.</p>	
<p><b>7. Key Personnel Quit:</b> This can be a problem if the project relies on these staff members' specialized skills.</p>	
<p><b>8. Out of Control Costs:</b> Delays in scheduling and changes in objectives can lead to spiraling costs.</p>	

## **Section 6: Keeping the Team on Track**

### **A. GETTING THE INFORMATION OUT**

The first step in launching your project is to get the team organized. Here are the pieces of information from the project plan that you should communicate to your team:

- A summary stating the project's purpose, goals, and overall schedule.
- A description of key personnel, their roles, and contact information.
- A personal task list (individualized for each team member) and schedule.
- An overall project schedule.
- An outline of administrative and reporting procedures, including procedures to report problems.
- Samples of required reports, forms, and other documents as needed.

### **B. ESTABLISHING AUTHORITY AND RESPONSIBILITY**

Your project cannot happen unless  
Responsibility = Authority

What do you think this statement means?

## Delegating Authority

When you decide to make others responsible for tasks, you can decide the amount of authority to grant them.

A common management mistake is failing to delegate the right amount of authority considering the task, the surrounding circumstances, and the employee's ability. Some managers do not delegate any authority because they want full personal control. Others give full authority because they want to be free of the task. Most of the time, something in between these two extremes is called for. Before you make your next delegation, review the delegation levels described below and select the one that fits your needs.

Level of authority	Assignment	Reason
<b>1</b>	Look into the situation and report the facts to me. I'll decide what to do.	The employee is new to the job and you want to retain control of the outcome.
<b>2</b>	Identify the problem. Determine alternative solution and the pluses and the minuses of each. Recommend one for more approval.	The employee has some understanding of the job, and you wish to assess the employees' critical thinking skills in approaching the task.
<b>3</b>	Examine the issues. Let me know what you intend to do, but don't take action until you check with me.	The employee has a good understanding of the task, and of the consequences of various courses of action. However, you wish to retain control over the final decision because the employee still has to prove his/her ability to handle the task independently.
<b>4</b>	Solve the problem. Let me know what you intend to do, then do it, unless I say not to.	You trust the employee to handle the task appropriately, but you wish to retain a window of opportunity should you need to intervene. Appropriate for more important tasks.
<b>5</b>	Take action on this matter and let me know what you did.	You have complete trust in the employee, but you need to be aware of the results because you are ultimately accountable, as manager.
<b>6</b>	Take action; no further contact with me is necessary.	You have complete trust in the employee and the results of the action taken will not impact significantly on how you are evaluated as a manager.

## **When Considering Delegation of Responsibility and Authority, Remember:**

*Any time you perform a task someone else could do, you keep yourself from a task only you can do*

**And:**

*The goal in delegation is satisfactory completion of the assigned task or project through the personal efforts of those handling the task or project*

## C. ESTABLISHING PROCESSES AND PROCEDURES

What are some basic organizational procedures you should adopt when launching a project?

### Practice

To establish the administrative procedures you will need, use the following questions:

- How will we assign work? If everyone is clear on who does what, how will we coordinate their efforts?
- How will we measure the project's progress?
- What kind of information will we need to assess progress?
  - what do we want the team to report on?
  - what is the objective of the reports?
  - who should produce reports?
  - how often?
- What standards will be used to evaluate the quality of the deliverables?  
*(Making the standards known will ensure that team members will work on achieving them.)*
- How often should we schedule meetings? Who should attend?
- How often will we update the project plan?
- How will we monitor expenses?
- How often will project reports go out? Who should they go to?

## D. COMMUNICATING DECISIONS

There are several ways in which you can communicate decisions throughout the project cycle. What are some of the advantages and disadvantages of each method in the table? What situation is each medium best suited for?

MEDIUM	ADVANTAGES	DISADVANTAGES
Telephone Calls		
Voice Mail		
E-mail		
Short notes		
Faxes		
Informal visits, walk-about		
Formal meetings		
Formal reports and memos		
Formal Presentations		
Other: Web site SMS Groupware		

## E. MOTIVATING YOUR TEAM

What factors motivate you to do a better job? What factors demoralize you?

At work, I am motivated by...

At work, I become demotivated when...

As project manager, one of your tasks is to motivate your team to give their best effort to the project.

Studies indicate that employees tend to be motivated by factors that are intrinsic to the job and that they have some measure of control over. Demotivation tends to occur when some environmental factors do not live up to the employees' expectations.

Motivators	Demotivators
<ul style="list-style-type: none"> <li>● Recognition</li> <li>● Advancement and growth</li> <li>● Responsibility</li> <li>● The work itself</li> </ul>	<ul style="list-style-type: none"> <li>● Company policy</li> <li>● Administrative practices</li> <li>● Working conditions</li> <li>● Technical supervision</li> <li>● Interpersonal relations</li> <li>● Job security</li> <li>● Salary</li> </ul>

Project managers can manipulate many aspects of the factors identified by employees as motivators:

Motivating Team Members	Your Notes
<p><b>1. Challenge:</b> Assign some difficult tasks, and expect results. Treat employees like they CAN.</p> <p><b>2. Achievement:</b> Acknowledge achievements by following-up with increased levels of responsibility. Success should beget success.</p> <p><b>3. Recognition:</b> Give recognition where it's due.</p> <p><b>4. Job Design:</b></p> <ul style="list-style-type: none"> <li>a) Skill variety: People get bored doing the same thing over and over. When designing a position, make sure to include a variety of tasks.</li> <li>b) Task Identity: Tell people what their work is, and how it contributes to the overall project.</li> <li>c) Task significance: Demonstrate to members how their success impacts on the success of the team.</li> <li>d) Autonomy: Tell team members what is expected of them (their deliverables), and give them the authority and freedom to deliver them.</li> <li>e) Feedback: Let people know how they're doing, and do it in a constructive way.</li> </ul>	

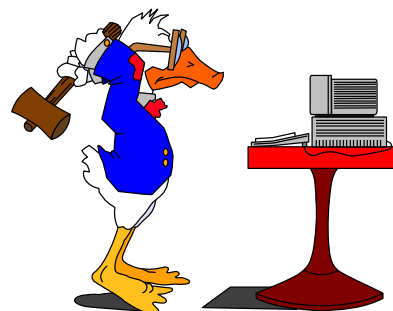


## Section 7: Closing the Project

Once the project is completed, you need to officially put an end to it. People need to be acknowledged for goals that are achieved. As well, project managers need to analyze the techniques, processes, and procedures used in order to improve their skills for the next project.

### A. SHUTTING DOWN THE PROJECT

Shutting Down the Project	Your Notes
<ul style="list-style-type: none"> <li>➤ Get final approval from the key stakeholders</li> <li>➤ Finalize all contractual arrangements</li> <li>➤ Transfer responsibility for ongoing activities to other people, if required</li> <li>➤ Reassign team members to new tasks</li> <li>➤ Release resources, such as materials and equipment</li> <li>➤ Complete the accounting: pay outstanding bills, total the costs, and close the books</li> <li>➤ Document the results of the project</li> </ul>	



## B. EVALUATING THE PROJECT

At the close of the project, it is important to review the process and evaluate it. Overall, was the project successful? If not, why? What worked well? What could be improved next time?

As project manager, the evaluation process is one of the most valuable tools for improving your skills.

### What Makes a Project Succeed?

A project succeeds when it is completed on time, within budget, and according to specifications. A failed project is one that fails to meet these basic objectives because it was not properly managed.

Given what you have learned over the past few days, why do you think projects fail? What makes a project succeed? In groups, brainstorm ideas in the table below. Do your answers differ from the ones you gave on Day 1? Compare your answers to those on the next page.

Reasons for Project Failure	Reasons for Project Success

Reasons for Project Failure	Reasons for Project Success
-----------------------------	-----------------------------

<ul style="list-style-type: none"> <li>➤ Plan too complex or too simple</li> <li>➤ Failure to achieve consensus on initial goals and objectives</li> <li>➤ Poor leadership, poor team motivation</li> <li>➤ Inadequate monitoring and controls</li> <li>➤ Inappropriate or insufficient staffing</li> <li>➤ Crucial tasks overlooked</li> <li>➤ Weak communication channels</li> <li>➤ No reliance on past experience</li> </ul>	<ul style="list-style-type: none"> <li>➤ Realistic plan</li> <li>➤ Consensus secured in the initial phase, and throughout the project</li> <li>➤ Clear goals and objectives, clearly understood by the team</li> <li>➤ 98% of task and resource requirements identified and budgeted for prior to start of project</li> <li>➤ Strong leadership, good rapport with team</li> <li>➤ Careful reporting and monitoring</li> <li>➤ Adequate staffing</li> <li>➤ Potential problems identified and contingencies planned</li> <li>➤ Similar projects reviewed in the planning stage</li> <li>➤ Key stakeholders involved throughout the project</li> </ul>
--	---



## C. SUBMITTING THE FINAL REPORT

The final report is both a history of the project and a final evaluation of performance.

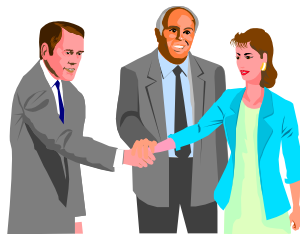
In groups, generate a list of topics that should be included in the report.

The Final Report should include:

**Checklist of Items to be Included on the Final Project Report**

- General Items:**
  - Executive Summary
  - Summary of managerial and technical aspects and project requirements
  - Document delivered business elements
  - Document delivered technical elements
  - Performance Reports or summaries
- Additional Items for Internal Report:**
  - Project Summary of customer satisfaction aspects
  - Lessons Learned
  - Suggested next actions – such as new business opportunities
- Additional Items for External Report:**
  - Customer acceptance and signature page

**Congratulations! You've seen your project to the end!**



## PERSONAL ACTION PLAN

*Think about the material covered over the past two days. Reflect on your actions during the various project management exercises. What did you learn about the project management process? How can you apply what you learned?*

*Make a commitment to become a better project manager. Design a personal action plan to help you achieve that goal.*

**Name:** \_\_\_\_\_ **Company:** \_\_\_\_\_

1. The three most important things I learned are:

a) \_\_\_\_\_

b) \_\_\_\_\_

c) \_\_\_\_\_

2. My current project management skills are effective in the following areas:

a) \_\_\_\_\_

b) \_\_\_\_\_

c) \_\_\_\_\_

3. I need to improve my project management skills in the following areas.

a) \_\_\_\_\_

b) \_\_\_\_\_

c) \_\_\_\_\_

4. To improve my skills, I will undertake the following action steps:

a) \_\_\_\_\_

b) \_\_\_\_\_

c) \_\_\_\_\_

## **APPENDIX 1**

### **Techniques to Estimate Task Duration**

#### ***1. Delphi Technique***

Seek out the advice of experienced people, preferably those who will be performing the task (or who have performed it in the past). Send the request to them and compile responses. Send compiled results back to these experts for further review. The three rules of this technique are:

- a) Do not get the experts in the same room
- b) Keep the experts' identity anonymous
- c) Try to build consensus

#### ***2. Historical Data***

Good project managers keep project notebooks. If you can access the notebook for a previous project similar in nature and scope, this may prove a valuable tool.

#### ***3. Experienced Estimates***

Assemble the team responsible for a particular project area or milestone. For each task, ask each individual to make their best guess as to its duration. Tabulate the results, and present them to the group in the form of a histogram ("first pass"). Those whose estimates fall in the outer ranges are asked to explain their estimates. After listening to the arguments, each member makes a second guess. The results are again presented in a histogram ("Second Pass"), and again, the outer ranges are defended. A final guess is made by each team member and presented in a final histogram ("Third Pass"). Final adjustments are made, and these become the estimates for the tasks.

#### ***4. Three-point techniques (also called Probabilistic Estimate)***

This method relies on three estimates of activity duration: optimistic, pessimistic, and most likely. The optimistic time (OT) is the shortest duration that can be expected; the pessimistic time (PT) is the estimated duration assuming everything that can go wrong will; and the most likely (MT) is the duration that is usually experienced. The Estimate (ET) is then computed using the following formula:

$$(ET) = \frac{OT + 4MT + PT}{6}$$

Statistically, this number has a 60% chance of being correct. To make the estimate a bit more pessimistic, a standard deviation can be added:

$$S.D. = \frac{PT - OT}{6}$$

This result is then added to the time estimate calculated above to create your final estimate (FET).

$$(FTE) = ET + S.D.$$

## **APPENDIX 2**

### **Calculating Path and Float**

1. Refer to your network diagram. List all the tasks and their duration time.

#### **Forward Pass:**

2. Calculate the **earliest start** date (ES) for each task, which is the minimum number of days from the beginning of the project before the task can begin

$$\text{ES} = \text{total of task durations for all precedent (necessary) tasks}$$

3. Calculate the **earliest finish** day (EF) for each task:

$$\text{EF} = \text{ES} + \text{task duration}$$

#### **Backward Pass:**

4. Calculate the **latest finish** day (LF) for each task. This is the last day that a task can be finished without delaying the project. You calculate this backward from the end day of the project, and subtract the durations of sequential tasks between the current task and the end of the project.

$$\text{LF} = \text{last day of project} - \text{duration of sequential (necessary) tasks to end of project}$$

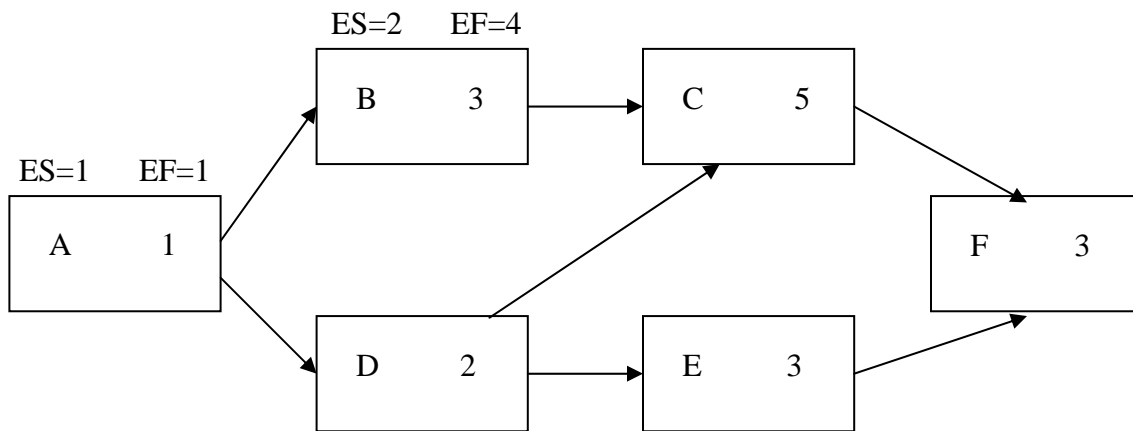
5. Calculate the **latest start** day (LS), which is the last day on which the task can be started without delaying the project.

$$\text{LS} = \text{LF} - \text{task duration or} \\ \text{LS of following task} - \text{task duration}$$

6. Calculate the **float** for each task:

$$\text{Float} = \text{LF} - \text{ES} - \text{task duration}$$



**Example:****A. Forward Pass:**

1. Task A is the first task, and requires one day to complete. Therefore:

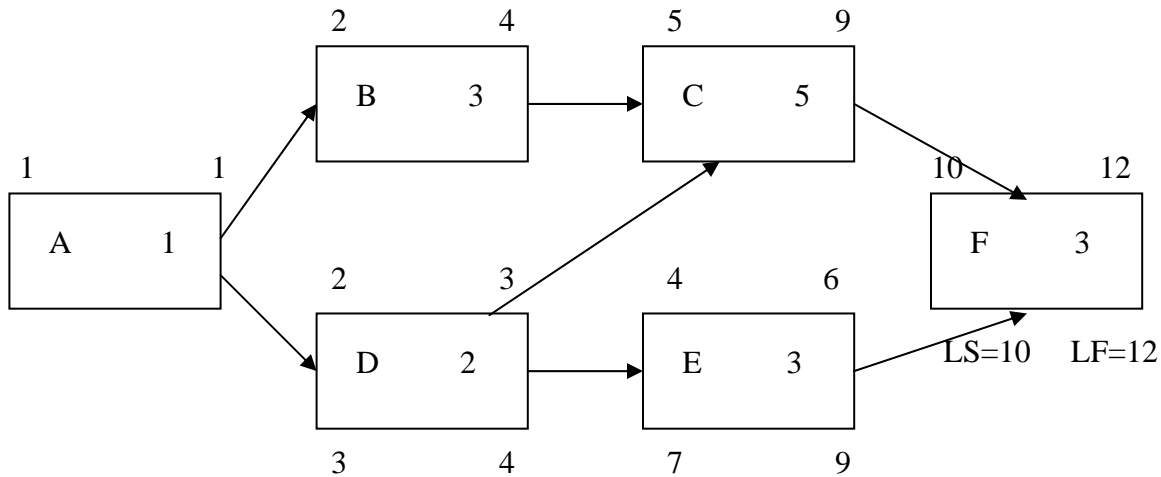
$$ES (A) = 1 \quad \text{and} \quad EF (A) = 1$$

2. Task B requires 3 days to complete. It can only start once Task A is complete. Therefore:

$$ES (B) = ES (A) + \text{duration} (A) = 1+1=2$$

$$EF (B) = ES (B) + \text{duration} (B) = 2+3 = 5$$

**Complete the forward pass on the diagram above. Check your answers on the next page.**

**B. Backward Pass:**

1. To calculate the backward pass, start off with by setting the LS and LF of the final task, using the ES and EF as starting points (remember these already indicate the length of the critical path).

2. Task E requires 3 days to complete:

$$LF(E) = \text{length of project} - \text{length of tasks that follow it} = 12 - 3 = 9$$

$$LE(E) = LS(F) - \text{duration of E} = 10 - 3 = 7$$

3. Task D is a precedent to both Task E and Task C – you must therefore calculate its LE and LF in relation to both tasks, and record the earliest result (this is the one that, if delayed, could jeopardize the project).

$$LF(D) = \text{length of project} - \text{length of tasks that follow it}$$

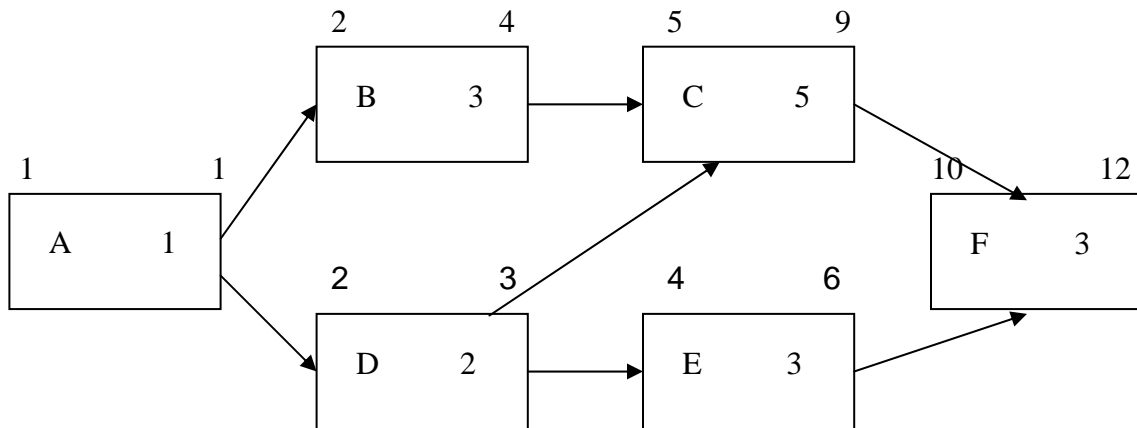
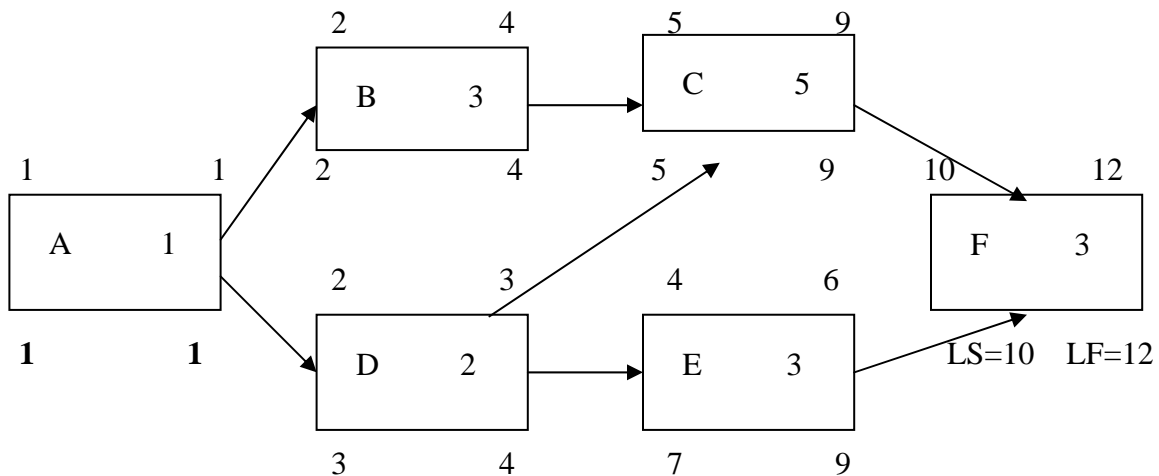
Or

$$LF(D) = 12 - 5 - 3 = 4 \text{ and } LF(D) = 12 - 3 - 3 = 6$$

Therefore,  $LF(D) = 4$

$$LE(D) = LS(C) - \text{duration of D} = 5 - 2 = 3$$

**Calculate the rest of the backward pass and check your answers on the next page. What activities have built-in float?**

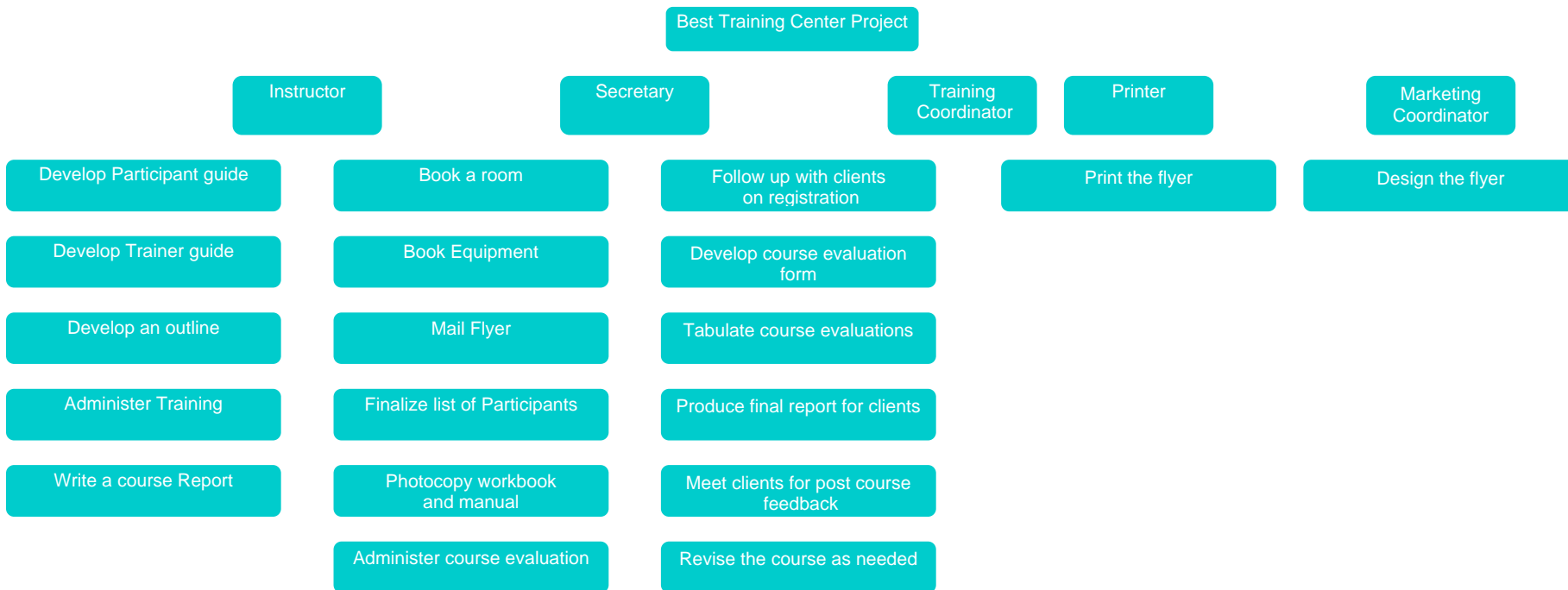
**A. Forward Pass:****B. Backward Pass:**

*There is float on activities D and E.*

### APPENDIX 3

#### Key to WBS Exercise from Day One

**Note: Key to Network Diagram exercise is on your Computer Disk in Project Format**



**APPENDIX 4****Tools**

**This series of template project management documents is designed to be used as you go back to your own projects. Use the blank templates as tools, and the examples to help you use them effectively.**

- A) Checklist
- B) Template for Statement of Work
- C) Example of Statement of Work Filled Out
- D) Template of Risk Assessment Chart
- E) Template Project Proposal
- F) Template Change Control Log
- G) Template Project Performance Report
- H) Template Project Status Report
- I) Template of a Project Final Report
- J) Template of Form to Record Lessons Learned in Project

**A) Checklist**

- Define the Project Management cycle
- Initiate a project by
  - identifying key players
  - setting clear goals
  - assessing the project's risks
  - producing a Statement of Work (SoW)
- Plan a project by:
  - generating a Work Breakdown Structure
  - identifying necessary resources
  - scheduling the tasks
  - building a project network
  - defining the critical path
- Implement a project by:
  - establishing processes and procedures
  - organizing the work team
- Monitor and control a project by:
  - establishing monitoring systems
  - identifying problems and planning for contingencies
- Close the project by:
  - dismantling the elements
  - analyzing the project
  - producing a final report
- Set personal goals to become a better project manager

**B) Sample Statement of Work**

<b>Customer</b>	
<b>Service Provider</b>	
<b>Project Name</b>	
<b>Background</b>	
<b>Scope / Requirements</b>	
<b>Deliverables</b>	
<b>Schedule</b>	
<b>Constraints / Assumptions</b>	
<b>Budget</b>	
<b>Customer Responsibilities</b>	
<b>Change Control</b>	
<b>Reporting Procedures</b>	

<p><b>Customer signature :</b>  <b>Printed name :</b>  <b>Date :</b></p>
<p><b>Provider signature :</b>  <b>Printed name :</b>  <b>Date :</b></p>

**C) Example of Statement of Work Filled Out**

<b>Customer</b>	BDF, Center Director, Participants
<b>Service Provider</b>	Best Training Center
<b>Project Name</b>	Project Management Workshop / Delivery
<b>Background</b>	BDF Center requests Best Training Center to complete a 3 day workshop in Project Management for BDF Staff
<b>Scope / Requirements</b>	Scope: Designing and delivering a 3-day workshop in Project Management Requirements: Marketing experience, training experience, administrator, printer
<b>Deliverables</b>	Participant guide, training guide, course flyer
<b>Schedule</b>	Start date August 1, all activities to be finished by Sept. 15
<b>Constraints / Assumptions</b>	Assumptions: Sources for developing the training material are available Constraints: ?
<b>Budget</b>	\$10,000
<b>Customer Responsibilities</b>	Financing the project, following up on the project development according to schedule, evaluating project with training director
<b>Change Control</b>	
<b>Reporting Procedures</b>	All staff report to the training coordinator



### D) Template of a Risk Assessment Chart

<i>Description of the Risk</i>	<i>Affected Component</i>	<i>Probability of the Risk (1 to 10)</i>	<i>Impact of the Risk (1 to 10)</i>	<i>Severity of the Risk (Probability x Impact)</i>	<i>Plan of Action</i>
		<b>Overall probability:</b>	<b>Overall impact:</b>	<b>Overall risk:</b>	

**E) Template: Project Proposal Headings**

- 1. Executive Summary:** Provide a brief overview of the project, its aims, and its projected outcomes.
- 2. Objective:** State what should be accomplished by the project. Use active language, and outline measurable outcomes.
- 3. Assumptions and Risks:** Clearly outline these to ensure that they are understood and accepted by the stakeholders.
- 4. Milestones:** If your project is long or complex, outline the significant steps towards reaching the goals.
- 5. Work Breakdown Structure and Network Diagram**
- 6. Resources:** Include all resources including personnel.
- 7. Budget Details**
- 8. Reporting Structure and Operating Procedures:** Outline the lines of authority and state how the project will be monitored.
- 9. Assessment and Review:** Indicate how the project will be evaluated once it is completed. What will be the success criteria? What actions will be taken to ensure the continued success and relevance of the deliverables?

**F) Template of Change Control Log**

**Project Name**  
**Change Control Log**  
**Week of month dd, yyyy**

<b>Change ID or Name</b>	<b>Description</b>	<b>Priority</b>	<b>Implication of no change</b>	<b>Cost</b>	<b>Target Compl Date</b>	<b>Approved by</b>

**G) Project Status Report**

**Project Name**  
**Status Report**  
**Week of month dd, yyyy**

Activity / Task #	Description	Owner	Date - Last Action

**H) Template of a Project Performance Report**

**Project Performance Report**  
**Week of mm/dd/yyyy**

<b>Customer</b>	
<b>Service Provider</b>	
<b>Project Name</b>	
<b>Project Performance</b>	Cost Performance Index Schedule Performance Index Estimate at Completion Estimate to Complete Variance at Completion
<b>Milestones</b>	
<b>Outstanding Issues</b>	

<p><b>Customer signature :</b>  <b>Printed name :</b>  <b>Date :</b></p>
<p><b>Provider signature :</b>  <b>Printed name :</b>  <b>Date :</b></p>

**I) Checklist of Items to be Included on the Final Project Report**

- General Items:**
  - Executive Summary
  - Summary of managerial and technical aspects and project requirements
  - Document delivered business elements
  - Document delivered technical elements
  - Performance Reports or summaries
- Additional Items for Internal Report:**
  - Project Summary of customer satisfaction aspects
  - Lessons Learned
  - Suggested next actions – such as new business opportunities
- Additional Items for External Report:**
  - Customer acceptance and signature page

## J) Lessons Learned

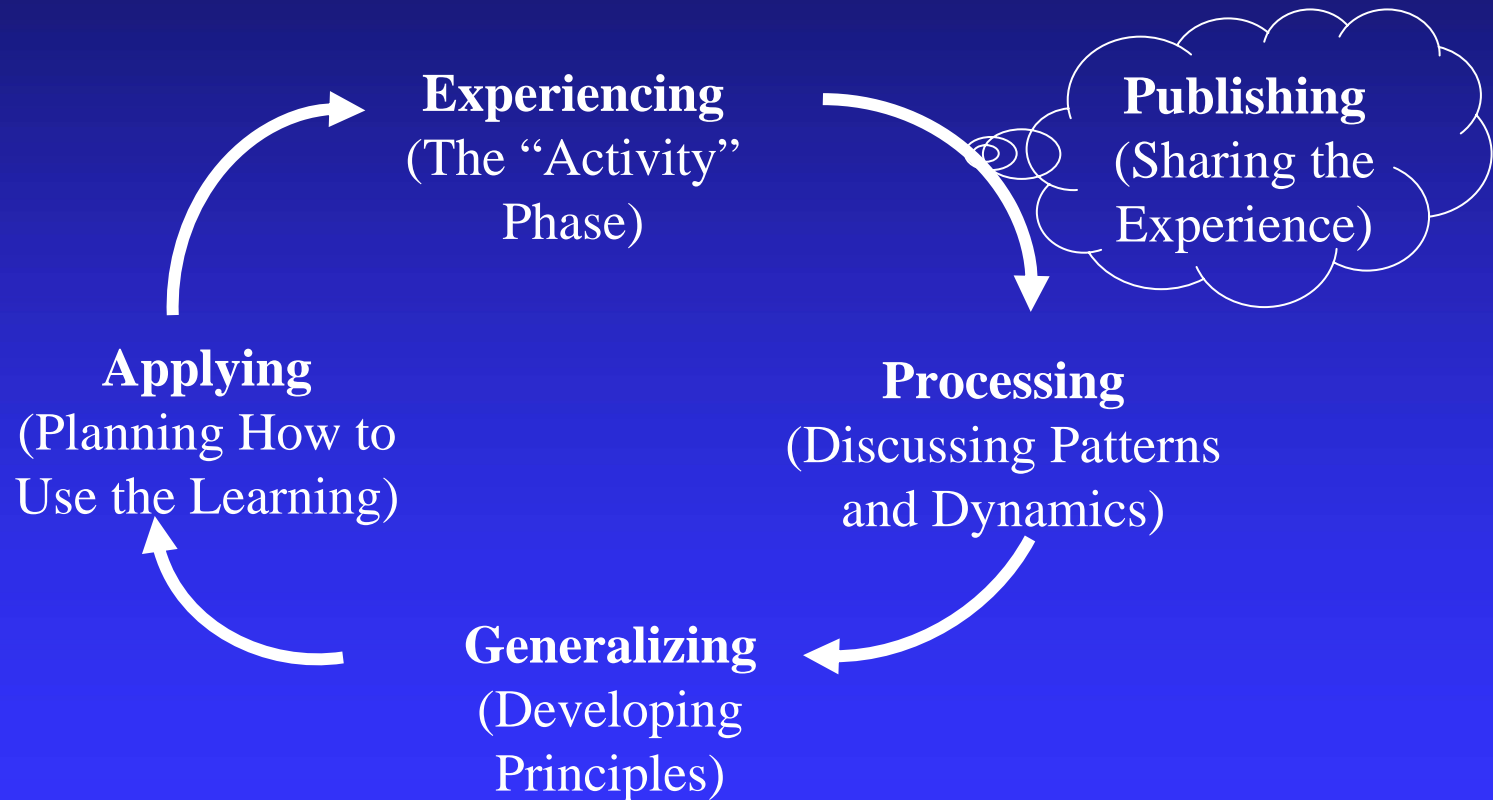
**Lessons Learned**

<b>Customer</b>	
<b>Service Provider</b>	
<b>Project Name</b>	
<b>Project Summary</b>	Summarize general scope, schedule, and deliverables.
<b>Project Management</b>	Lessons learned in the area of project management.
<b>Technical</b>	Lessons learned in the area of technology.
<b>Customer Satisfaction Management</b>	Lessons learned in managing customer expectations.

# Project Management Workshop



# The Experiential Learning Model



# The Role of the Trainer....

- To present theory and relevant information
- To be a resource person throughout the workshop
- To provide you with feedback
- To keep personal and professional information confidential
- To share responsibility with you in facilitating group interactions and establishing group rules

# The Role of the Participant...

- To evaluate the workshop from the beginning
- To participate in your own way
- To assume and share leadership whenever it feels right for you
- To arrive on time and attend all sessions
- To provide feedback
- To share your ideas and resources
- To ask for clarification and elaboration when things are unclear or of interest to you
- To help facilitate the learning in the group
- To respect the need for confidentiality in the group

# Learning Objectives (1)

- Define the Project Management cycle
- Initiate a project by
  - ◆ identifying key players
  - ◆ setting clear goals
  - ◆ assessing the project's risks
  - ◆ producing a Statement of Work (SoW)

# Learning Objectives (2)

- Plan a project by:
  - ◆ generating a Work Breakdown Structure
  - ◆ identifying necessary resources
  - ◆ scheduling the tasks
  - ◆ building a project network
  - ◆ defining the critical path

# Learning Objectives (3)

- Implement a project by:
  - ◆ establishing processes and procedures
  - ◆ organizing the work team
- Monitor and control a project by:
  - ◆ establishing monitoring systems
  - ◆ identifying problems and planning for contingencies

# Learning Objectives (4)

- Close the project by:
  - ◆ dismantling the elements
  - ◆ analyzing the project
  - ◆ producing a final report
- Set personal goals to become a better project manager

# Agenda: Day One

- **Introduction**
- **What is Project Management?**
- **Initiating the Project**
- **Introduction to Microsoft Project**



# What Is a Project?

- Has a **beginning** and an **end**
- Uses **resources** (people, time and money) specially allocated to the work
- Produces a unique **outcome**
- Follows a planned approach to meet an **objective**
- Usually involves a **team** of people
- Has a unique set of **key stakeholders**
- Getting from beginning to end involves a series of steps.
- These resources differ from those used in ongoing work.
- These outcomes also have specific goals of quality or performance – When a project gets done, something new exists that didn't exist before.
- These key stakeholders will have different expectations about the end result. These expectations must be managed for the completed project to be considered a success.

# A Good Project Manager Shows...

- Enthusiasm for the project
- An ability to manage change effectively
- A tolerant attitude toward ambiguity
- Team building and negotiating skills
- A customer-first orientation
- Adherence to the priorities of business
- Knowledge of the industry or technology

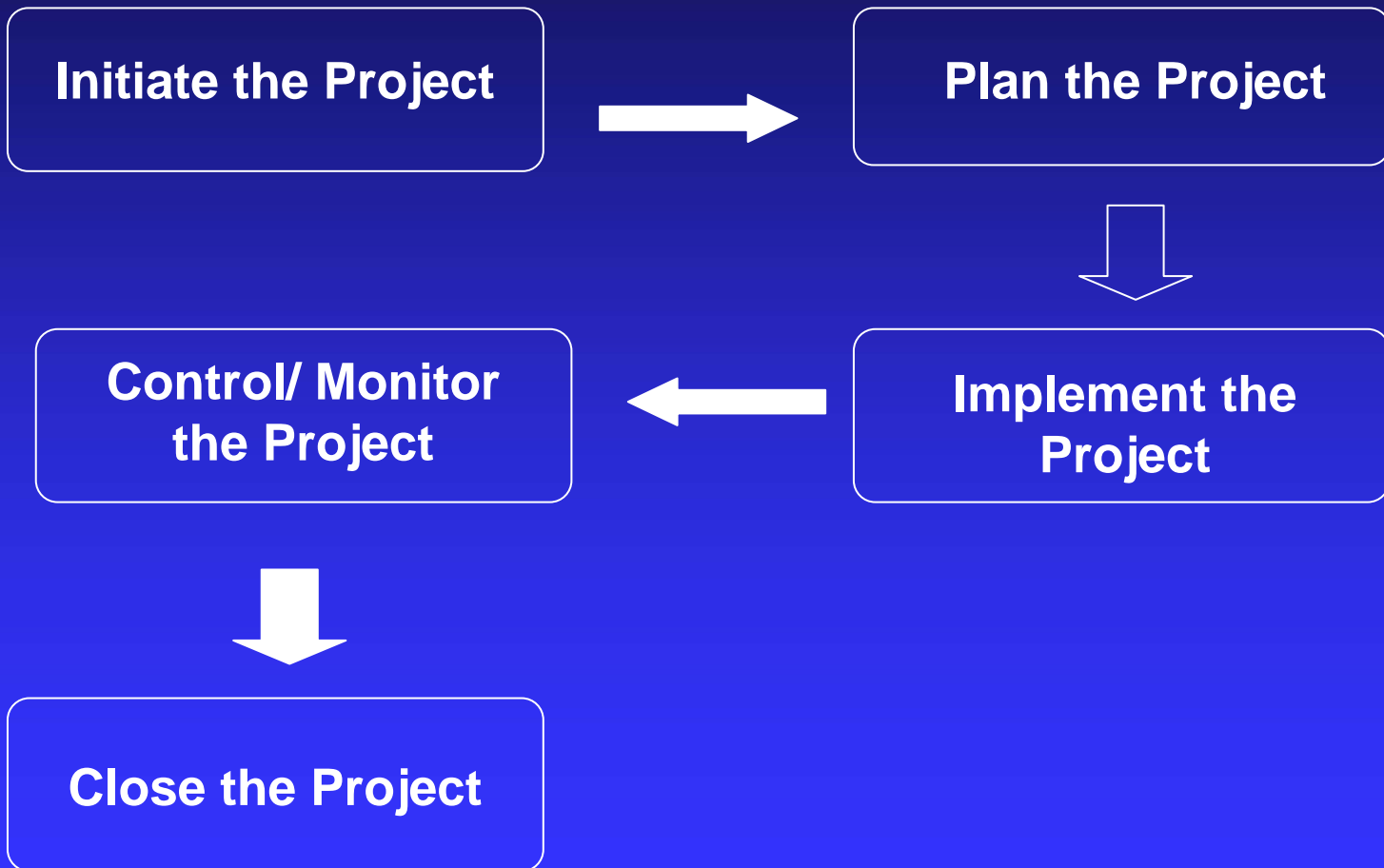
# The Role of the Project Manager

- Gain consensus on project outcomes
- Build the best team you can
- Develop a comprehensive, viable plan and keep it up to date
- Determine how much stuff you need to get things done
- Remember that people count

# The Role of the Project Manager (2)

- Gain the formal and ongoing support of management and key stakeholders
- Be willing to change
- Keep others informed of what you're up to
- Be willing to try new things
- Be a leader!

# The Project Management Cycle



# Identifying the key stakeholders

<b>Project manager</b>	Leads the project; plans, monitors, tracks, controls, documents and reports project activities.
<b>Sponsor</b> (a customer representative or a functional manager)	Provides authority for project to proceed; guides and monitors the project in partnership with the project manager; key organizational advocate for the project
<b>Core implementation team</b>	Provides skills, expertise and effort to perform the tasks defined for the project; assists with the planning and with estimating the project tasks
<b>Customer</b> (may be external or internal)	Establishes the requirements for the project; provides funding; reviews the project as milestones and deliverables are met
<b>Functional Managers</b>	Establish company policy; provide resources; some will provide review and approval authority.

# Setting SMART Goals

- Specific
- Measurable
- Assignable
- Realistic
- Time-related

# Assessing Constraints

- **Budget:** Know how much you need, and how much you have. Don't expect to need less, and don't expect to get more.
- **Schedule:** Know how much time you have, and remember that time waits for no one!
- **People:** No matter how great a team you envision, you will ultimately have to work with who is available.
- **Facilities and equipment:** Again, you will have to work with what is available.
- **The Real World:** Once a project is underway, the interaction of money, scheduling and people is never as smooth as anticipated. Plan for that.



# Assessing Risks

*There are basically three types of risks you will face:*

- **The known risks:** These are the risks you can identify after reviewing the project definition within the context of the business environment.
- **The predictable risks:** These are risks that might occur and that you can identify based on past projects.
- **The unpredictable risks:** There might be an earthquake during your conference. This, you can do nothing about!

# Risk Management

<b>Steps for Risk Management</b>	<b>Notes</b>
1. Identify the risks	1. With the key stakeholders, brainstorm a list of the risks you anticipate. Assume that anything can go wrong.
2. Analyze the probability that the risk will occur, and its potential impact on the project.	2. Assign the list a ranking on a scale of 1 to 10.
3. Determine the overall importance of the risk.	3. Multiply the probability rank by the impact rank.

# Risk Management (2)

<b>Steps for Risk Management</b>	<b>Notes</b>
4. Determine which risks need further action, or contingencies.	4. Usually, risks ranked above 40 should receive further attention.
5. Document a response plan for the risk.	5. You can: <ul style="list-style-type: none"><li data-bbox="896 911 1391 968">■ Accept the risk</li><li data-bbox="896 1001 1372 1058">■ Avoid the risk</li><li data-bbox="896 1090 1744 1229">■ Monitor the risk and develop a contingency plan</li><li data-bbox="896 1262 1429 1319">■ Transfer the risk</li></ul>

# Microsoft Project Review of Terminology

- Calendar
  - ◆ Base Calendar
  - ◆ Resource Calendar
- Task
- Summary Task
- Duration
  - ◆ Fixed Duration Task
  - ◆ Resource Driven Task
- Milestone
- Dependency relationship
  - ◆ Predecessor
  - ◆ Successor (dependent)
- Lag Time
- Lead Time
- Task Constraint

# Microsoft Project Review of Terminology (2)

- Resource
- Work
- Units
  - ◆ Maximum Units
  - ◆ Peak Units
- Overallocated resource
- Resource leveling
- Slack time
  - ◆ Total slack
  - ◆ Free slack
- Critical task
- Critical path
- Noncritical task
- Baseline

# Agenda: Day Two

- **Work Breakdown Structure**
- **Project Networks**
- **Identifying Resources**
- **Scheduling the Project**

# The Task List

*Identifying the tasks will allow you to:*

- Break down the project into more manageable chunks
- Create a logical completion sequence for your project
- Identify and understand the work sequences
- Determine the skills and number of people required
- Communicate the work to your team

# Creating a Task List (1)

1. Review the goals and deliverables.
2. Brainstorm all the tasks required for completion of the project.
3. Review the list:
  - ◆ Tasks should be unambiguous
  - ◆ Each task should represent ONE unit of work, with a beginning and an end, no gaps in the middle
  - ◆ Each task should meet the 8/80 rule



## Creating a Task List (2)

4. Organize the tasks by activity area.
5. Integrate the tasks into a total system, with a beginning and an end.
6. Verify that completion of the tasks will result in attainment of all the project goals.

# The Work Breakdown Structure

*The WBS accomplishes the following:*

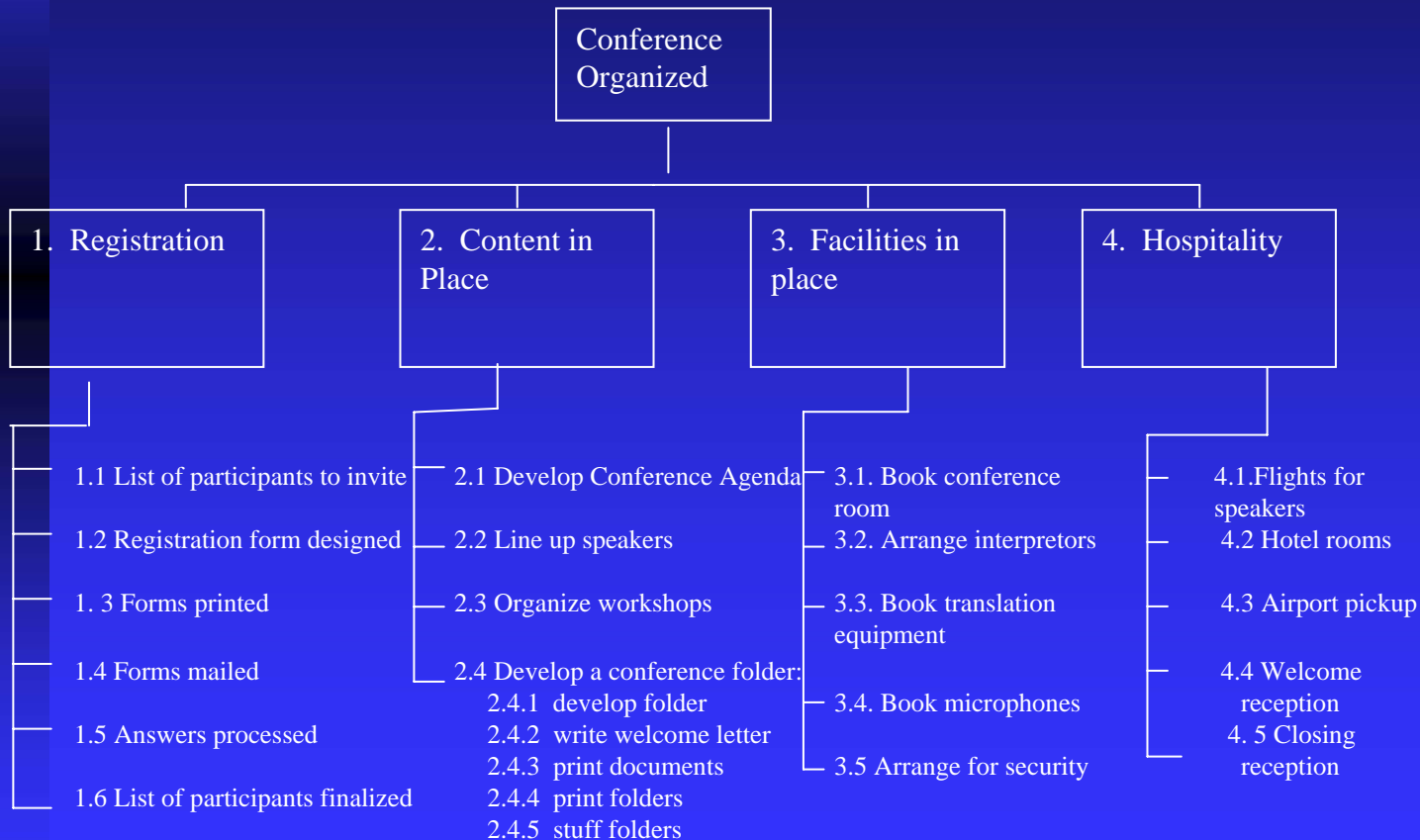
- Provides an overview of the project's milestones
- Organizes the project into a clear hierarchy of milestones, subprojects, and tasks (for more complex projects)
- Indicates the relationship between milestones and their individual components

# WBS Formats

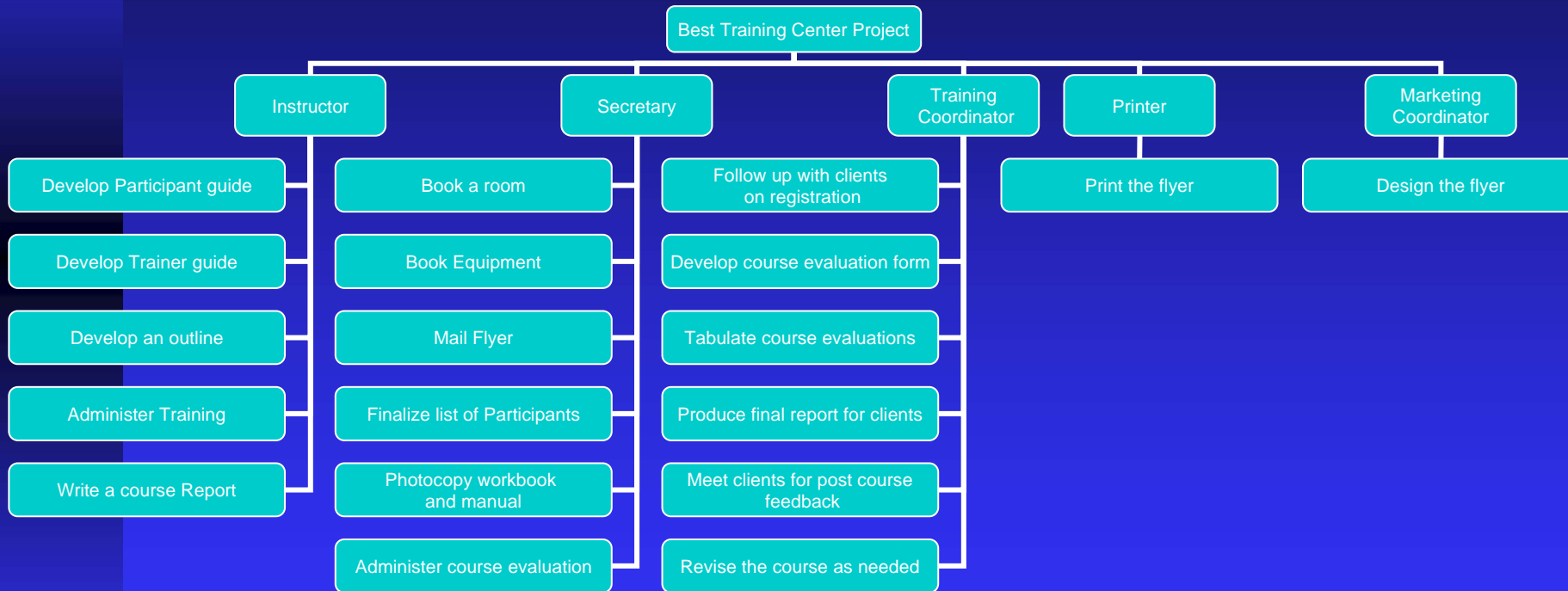
- **Functional or technological:** The WBS is drawn in terms of functions that need to be performed. What is required in each phase of the project?
- **Organizational:** The WBS follows the structure of the organization. What is the reporting structure? Who will perform which task?
- **Physical location:** In cases where the teams will work from different locations, the WBS can be organized along geographical locations.

# Example of a WBS

## Project: Organizing a Conference



# Work Breakdown Structure: Best Training Center Case



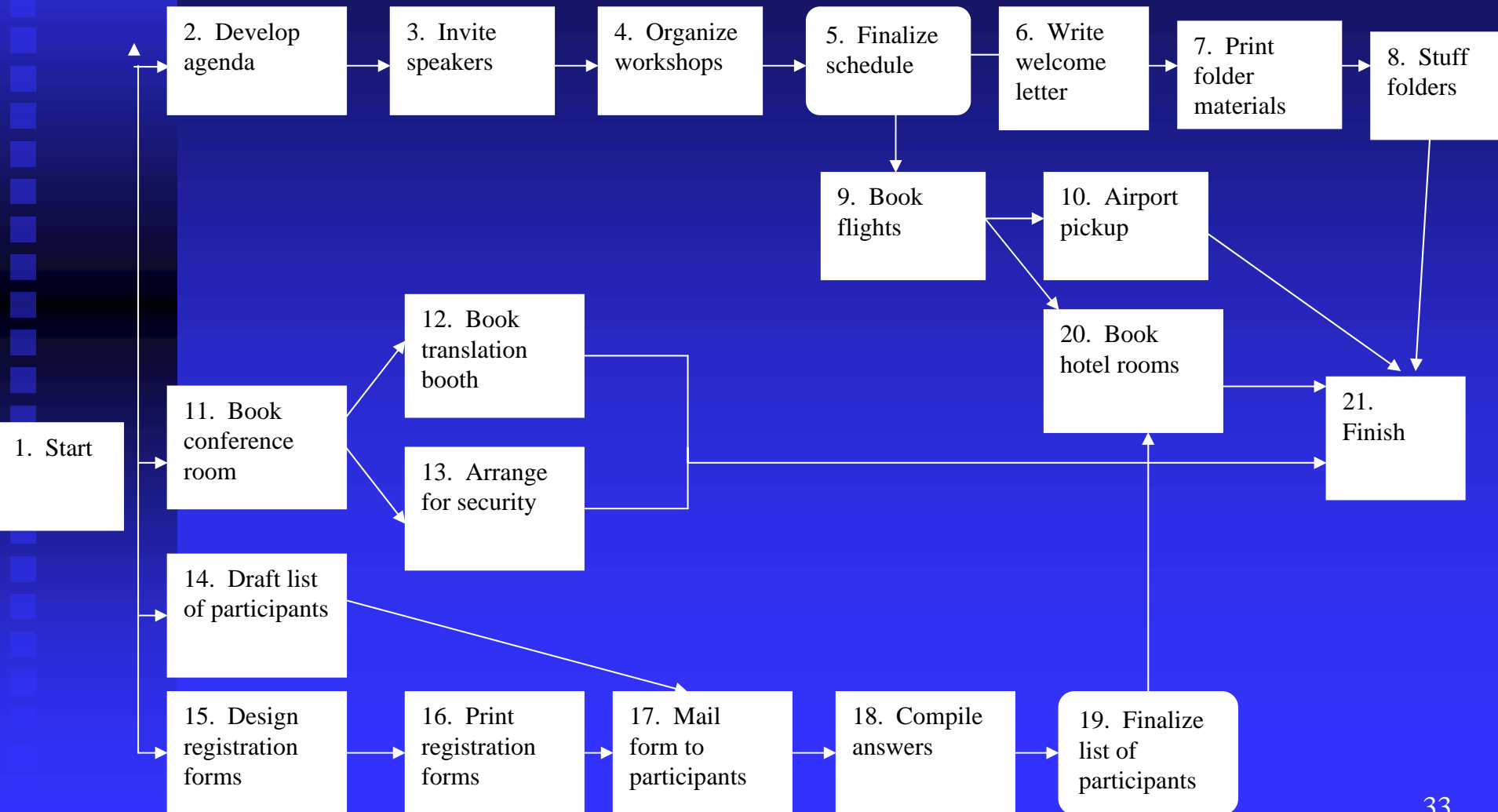
# Function of the Network Diagram

- Show the sequence and relationships among the tasks
- Identify the relationships of milestones in the project that can be used to monitor progress and completion
- Show the interrelationships of tasks in different parts of the task list and WBS hierarchy
- Establish a vehicle for scheduling tasks
- Help reduce uncertainty in the project by organizing it into clear, logical, sequential steps

# Steps for a Network Diagram

- Step 1: List the tasks, using the WBS
- Step 2: Establish the interrelationships between the tasks:
  - ◆ What tasks must precede this task?
  - ◆ What tasks follow this task?
  - ◆ Which tasks can be conducted in parallel (at the same time)?
- Step 3: Identify the milestones
- Step 4: Lay out the tasks and milestones as a network
- Step 5: Review the logic of the network

# Example of a Network Diagram



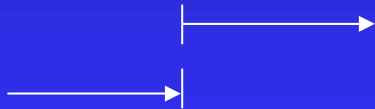





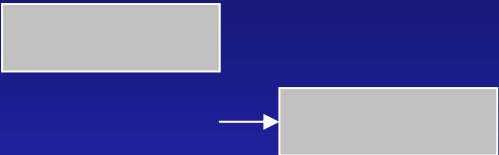

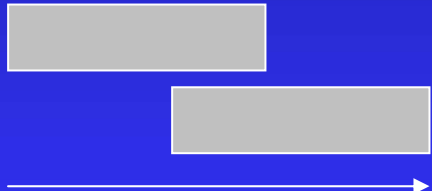

# Estimating the Schedule

- Before you estimate the duration of tasks, you should be clear on the distinction between:
- *Dedicated Time: the actual amount of time it takes to perform the task (or the task effort)*
- *Calendar Time: how long the task will actually take to perform in REAL time (or the task duration), keeping in mind other commitments, work activities, resources available and constraints.*
- In scheduling your project, you are more concerned with task duration (calendar time) than with task effort.

# Understanding Complex Task Interdependency

Type of interdependency	Definition
Finish to start	Task 1 must finish before Task 2 may start 
Start to Start	Task 2 may start once Task 1 has started 
Start to Finish	Task 2 must finish before Task 1 can start 
Finish to Finish	Task 2 must finish once Task 1 has finished 

# Time Lags

a) 	FINISH TO START: The amount of time between the finish of Task 1 and the start of Task 2
b) 	START TO START: The amount of time between the start of Task 1 and the start of Task 2
c) 	START TO FINISH: The amount of time between the start of Task 1 and the finish of Task 2
d) 	FINISH TO FINISH: The amount of time between the finish of Task 1 and the finish of Task 2

# Equipment and Supplies Worksheet

Required	Responsible person or supplier	How much is needed?	When is it needed?	Check if available
MATERIALS: a b c d e				<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
EQUIPMENT: a b c d E				<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
SUPPLIES: a b c d E				<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
FACILITIES: a b c d E				<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
OTHER: a b c d e				<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

# Matching People to Jobs

*Skills requirement worksheet*

*Project: Conference*

WBS	Tasks	Skills required	Experience and/or degree
1.2	Design of registration form	-Graphic design -Use of appropriate graphic design software	-Graphic design degree -Strong portfolio
2.4.1	Design of folder	-Experience with designing promotional materials	
1.3	Print registration forms	-Knowledge of printing process	-Experience coordinating printing jobs
2.4.3	Print folders document	-Negotiation skills -Meticulous	
2.4.4	Print folders		

# Matching People to Jobs (2)

*Skills inventory worksheet*

*Project: Conference*

<b>Name</b>	<b>Category</b>	<b>Current job</b>	<b>Skills</b>	<b>Experience/ Degrees</b>
Tarek E.	Graphics department	Designer	<ul style="list-style-type: none"><li>-Software</li><li>-Supervision of junior staff</li><li>-Comes in on time and under budget</li></ul>	<ul style="list-style-type: none"><li>-B.A. in design</li><li>-Worked on the 1998 and 1999 conferences</li></ul>
Hala R.	Marketing	Jr. marketing officer	<ul style="list-style-type: none"><li>-Promotions</li><li>-Good interpersonal relationships</li><li>-Good under stress</li></ul>	<ul style="list-style-type: none"><li>-B. Comm Marketing</li><li>-Produced 15 marketing packets</li></ul>

# Contents of the Project Proposal

1. Executive summary
2. Objective
3. Assumptions and risks
4. Milestones
5. WBS and network diagram
6. Resources
7. Budget details
8. Reporting structure and operating procedures
9. Assessment and review

# Agenda: Day Three

- **Monitoring and Controlling the Project**
- **Keeping the Team on Track**
- **Closing the Project**



# Controlling Your Project

*Achieving positive control of your project involves:*

- Using the project plan as your primary guide
- Monitoring and updating the plan
- Keeping the lines of communication open
- Getting involved
- Adapting the project schedule, budget and work plan as necessary to keep the project on track
- Documenting progress and change

# What Should Monitoring Accomplish?

*Project monitoring should accomplish the following basic functions:*

- Communicating project status and changes to team members
- Informing key stakeholders about the status of the project
- Providing justification for making adjustments
- Documenting current project plans compared to the original project plan

# How Can You Monitor Progress?

- Status reports
- Project review meeting
- Project audit
- Expenditure reports
- Information from project team
- Information from outsiders

# Status Reports

*Team members should report on progress regularly.*

- The project manager is in charge of compiling and summarizing the status reports for key stakeholders.
- He/she should also present conclusions and recommendations for actions and change.

# Project Review Meeting

- Meetings can be used to resolve issues, discuss project status and review performance towards objectives.
- Meetings can be held at major milestones, or on a periodic basis.

# Project Audit

- This process examines all aspects of a project at a point in time, and is usually performed by an outsider
- May provide an accurate picture of the quality of work, current expenditures and scheduling
- Auditors report their findings and recommendations to the project manager and/or management

# Expenditure Reports

- Allow you to account for all monetary commitments as they occur
- Allow you to compare your commitments to your original plan

# Information from the Project Team

- Everyone on the team should be involved in monitoring what is going on
- Talk to people and LISTEN to their ideas



# Information from Outsiders

- This process allows you to gather feedback from suppliers or other managers as to how your team is doing

# Common Problems

1. Floating start date: Some projects never get off the ground because other priorities get in the way
2. Lack of time: Things always take longer than anticipated, and there is never enough time to get it all done – it is likely that your project will fall behind schedule at some point

## Common Problems (2)

3. Too many reports, no real communication: It may seem that you are receiving and producing an endless quantity of reports, yet some people are still falling behind, going over budget or not respecting specifications
4. Early delivery date: key stakeholders request that the project be completed earlier than planned

## Common Problems (3)

5. 90% syndrome: The project is 90% done and yet does not seem to want to come to an end
6. Changes in objectives: Key stakeholders request changes in the deliverables
7. Key Personnel quit: This can be a problem if the project relies on these staff members' specialized skills

# Common Problems (4)

8. Out of control costs: Delays in scheduling and changes in objectives can lead to spiraling costs

# Six Levels of Delegation

Level of authority	Assignment
1	Look into the situation. Collect all the facts and report them to me. I'll decide what to do.
2	Identify the problem. Determine alternative solution and the pluses and minuses of each. Recommend one or more for approval.
3	Examine the issues. Let me know what you intend to do, but don't take action until you check with me.
4	Solve the problem. Let me know what you intend to do, then do it, unless I say not to.
5	Take action on this matter and let me know what you did.
6	Take action; no further contact with me is necessary.

# Delegating Tasks

- Any time you perform a task someone else could do, you keep yourself from a task only you can do
- The goal in delegation is satisfactory completion of the assigned task or project through the personal efforts of those handling the task or project

# Establishing Processes and Procedures

- How will we assign work? If everyone is clear on who does what, how will we coordinate their efforts?
- How will we measure the project's progress?
- What kind of information will we need to assess progress?
  - i. What do we want the team to report on?
  - ii. What is the objective of the reports?
  - iii. Who should produce reports?
  - iv. How often?



# Establishing Processes and Procedures (2)

- What standards will be used to evaluate the quality of the deliverables? (*Making the standards known will ensure that team members will work on achieving them.*)
- How often should we schedule meetings? Who should attend?
- How often will we update the project plan?
- How will we monitor expenses?
- How often will project reports go out? Who should they go to?

# Getting the Information Out

*Here are the pieces of information from the project plan that you should communicate to your team:*

- A summary stating the project's purpose, goals, and overall structure.
- A description of key personnel, their roles, and contact information.
- A personal task list (individualized for each team member) and schedule.
- An overall project schedule.
- An outline of administrative and reporting procedures, including procedures to report problems.
- Samples of required reports, forms, and other documents as needed.

# Motivating Your Team

1. **Challenge:** Assign some difficult tasks, and expect results. Treat employees like they CAN.
2. **Achievement:** Acknowledge achievements by following up with increased levels of responsibility. Success should beget success.
3. **Recognition:** Give recognition where it's due.
4. **Job design:**
  - Skill variety
  - Task identity
  - Task significance
  - Autonomy
  - Feedback

# Motivating Your Team

Motivators	Demotivators
<ul style="list-style-type: none"><li>■ Recognition</li><li>■ Advancement and growth</li><li>■ Responsibility</li><li>■ The work itself</li></ul>	<ul style="list-style-type: none"><li>■ Company policy</li><li>■ Administrative practices</li><li>■ Working conditions</li><li>■ Technical supervision</li><li>■ Interpersonal relations</li><li>■ Job security</li><li>■ Salary</li></ul>

# Shutting Down the Project

- Get final approval from key stakeholders
- Finalize all contractual arrangements
- Transfer responsibility for ongoing activities to other people, if required
- Reassign team members to new tasks
- Release resources, such as materials and equipment
- Complete the accounting: Pay outstanding bills, total the costs, and close the books
- Document the results of the project

# Evaluating the Project

## *Reasons for project failure:*

- Plan too complex or too simple
- Failure to achieve consensus on initial goals and objectives
- Poor leadership, poor team motivation
- Inadequate monitoring and controls
- Inappropriate or insufficient staffing
- Crucial tasks overlooked
- Weak communication channels
- No reliance on past experience

# Evaluating the Project

## *Reasons for project success:*

- Realistic plan
- Consensus secured in the initial phase and throughout the project
- Clear goals and objectives, clearly understood by the team
- 98% of task and resource requirements identified and budgeted for prior to start of project
- Strong leadership, good rapport with team
- Careful reporting and monitoring
- Adequate staffing
- Potential problems identified and contingencies planned
- Similar projects reviewed in planning stage