

Software Project Management

Integration Management

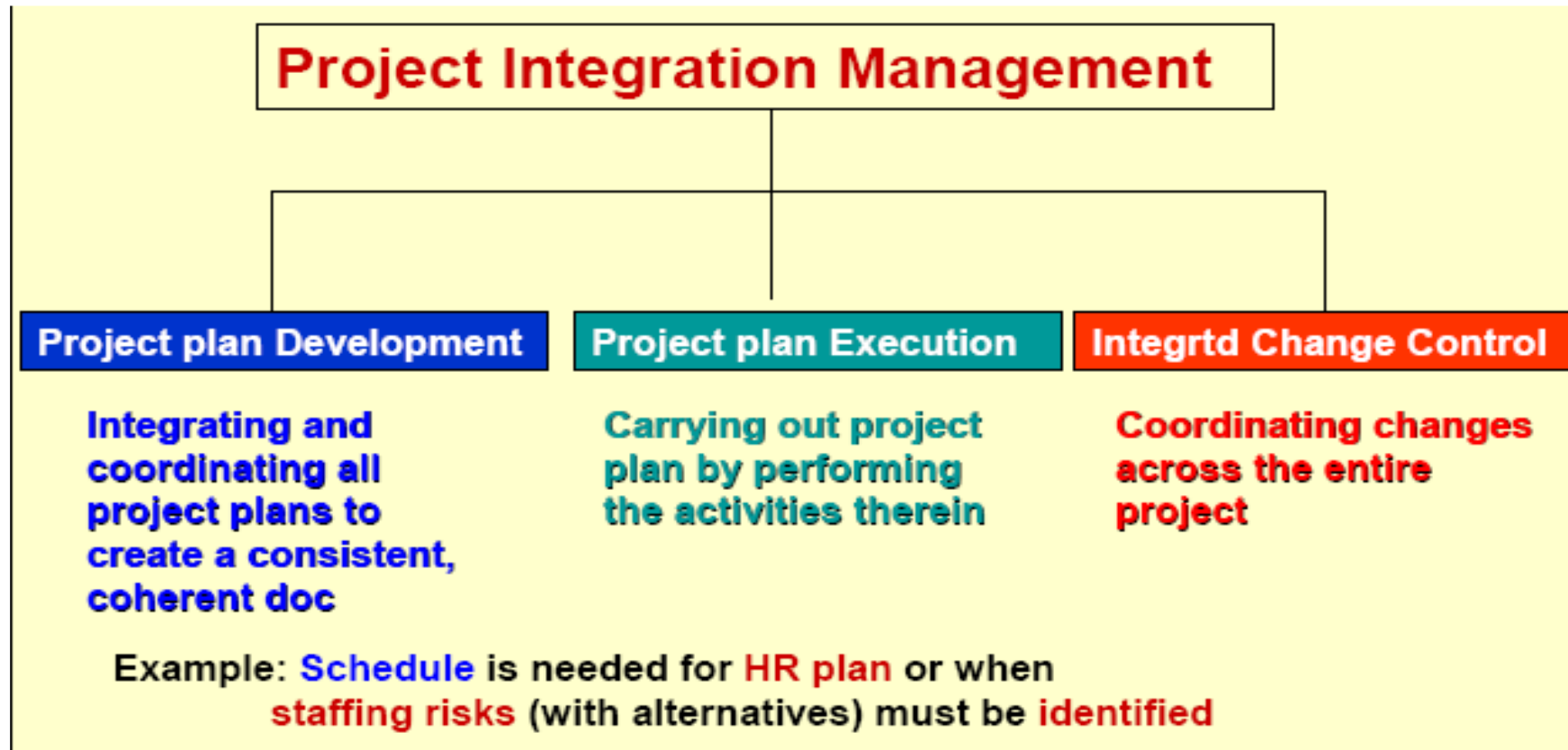
Lecture 5



•Project Integration Management

- Project Integration Management is primarily concerned with effectively integrating the process groups that are required to accomplish the project objectives within an organization defined procedures

PIM includes the processes required to ensure that various elements of the project are properly coordinated



•Project Integration Management Processes

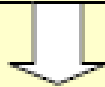
- 1 Develop Project Charter
- 2 Develop Project Management Plan
- 3 Direct & Manage Project Execution
- 4 Monitor & Control Project Work
- 5 Perform Integrated Change control
- 6 Close Project

Knowledge Area	Project Management Process Groups				
	Initiating Process Group	Planning Process Group	Executing Process Group	Monitoring & Controlling Process Group	Closing Process Group
Project Integration Management	4.1 Develop Project Charter	4.2 Develop Project Management Plan	4.3 Direct and Manage Project Execution	4.4 Monitor and Control Project Work 4.5 Perform Integrated Change Control	4.6 Close Project or Phase

Project Integration Management

Inputs

1. Other planning outputs*
2. Historical information
3. Organizational policies
4. Constraints
5. Assumptions



Project plan Development

Tools & Techniques

1. Proj. planning Methodology
2. Stakeholders skill & Knowledge
3. Prog. Manag Info Sys. (PMIS)
4. Earned Value Manag (EVM)

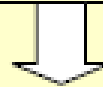


Outputs

- Project Plan
- Supporting Details

Inputs

1. Project Plan
2. Supporting Details
3. Organizational policies
4. Prevention Action
5. Corrective Action



Project plan Execution

Tools & Techniques

1. Gen. Manag. Skills
2. Product skill & Knowledge
3. Work Authorization Sys.
4. Status Review Meetings
5. Org. Procedures
6. PMIS

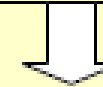


Outputs

- Work Results
- Change Requests

Inputs

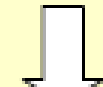
1. Project Plan
2. Change Requests
3. Performance Reports



Integrtd Change Control

Tools & Techniques

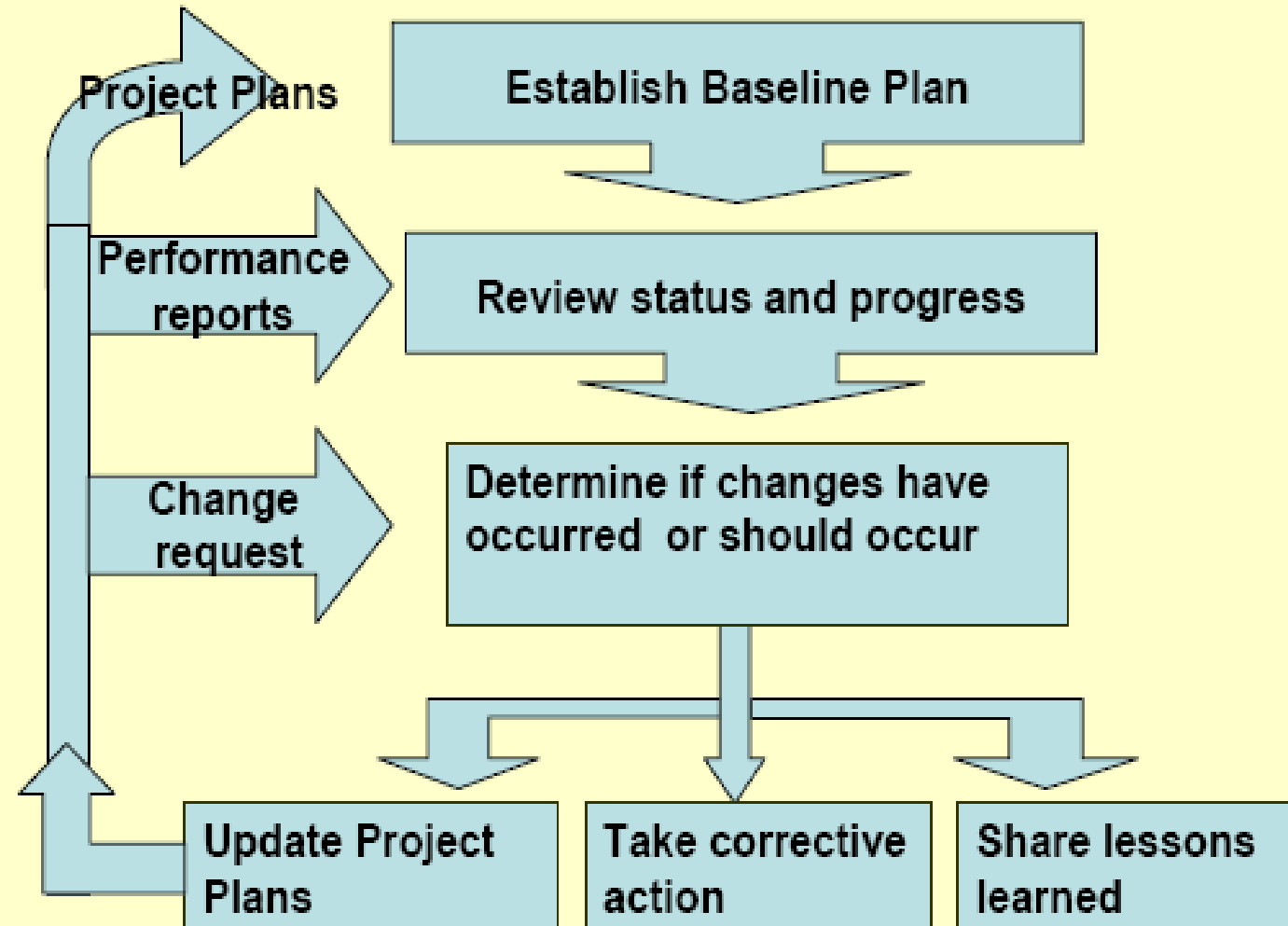
1. Change Control Sys
2. Config Management
3. Performanc Measurement
4. Additional Planning
5. PMIS



Outputs

- Project Plan Updates
- Corrective Actions
- Lessons Learned

Integrated Change Control process



Scope Management

A subset of project management that includes the **processes** required to ensure that the project includes all the work required, and only the work required, to complete the project successfully.

1. Initiation

Authorizing the project (or phase) (or gives permission for) work to begin on a project

2. Scope planning

developing a written scope statement as the basis for future project decisions.

3. Scope definition

subdividing the major project deliverables into smaller, more manageable components.

Scope Management--cont

4. Scope verification

formalizing acceptance of the project scope.

5. Scope change control

controlling changes to project scope.

Time Management

A subset of project management that includes the **processes** required to ensure timely completion of the project.

1. Activity definition

–identifying the specific activities that must be performed to produce the various project deliverables

2. Activity sequencing

–identifying and documenting interactivity dependencies

3. Activity duration estimating

–estimating the number of work periods which will be needed to complete individual activities

Time Management--cont

4. Schedule development

–analyzing activity sequences, activity durations, and resource requirements to create the project schedule

5. Schedule control

–controlling changes to the project schedule

Cost Management

A subset of project management that includes the **processes** required to ensure that the project is completed within the approved budget.

1. Resource planning

- Determining resources and what quantities of each should be used

2. Cost Estimating

- Developing approximation of the costs of the resources need

3. Cost budgeting

- Allocating the overall cost estimate to individual work items

4. Cost Control

- Controlling changes to the project budget

Quality Management

A subset of project management that includes the **processes** required to ensure that the project will **satisfy the needs** for which it was undertaken.

1. Quality Planning

- Identifying which quality standards are relevant to the project and determining how to satisfy them.

2. Quality Assurance

- Evaluating overall project performance on a regular basis to provide confidence that the project will satisfy the relevant quality standards

3. Quality Control

- Monitoring specific project results to determine if they comply with relevant quality standards and identifying ways to eliminate causes of unsatisfactory performance

Human Resource Management

A subset of project management that includes the processes required to make the most effective use of the people involved with the project.

1. Organizational planning

- Identifying, documenting, and assigning project roles, responsibilities, and reporting relationships

2. Staff acquisition

- Getting the human resources

3. Team development

- Developing individual and group skills to enhance project performance

Communication Management

A subset of project management that includes the processes required to ensure timely and appropriate generation, collection, dissemination, storage, and ultimate disposition of project information.

1. Communications planning

- Determining the information and communication needs of the stakeholders

2. Information distribution

- Making needed information available to project stakeholders in a timely manner

3. Performance reporting

- Collecting and disseminating performance information

4. Administrative closure

- Generating, gathering, and disseminating information to Formalize phase or project completion

Mapping PM processes to Life Cycle Phases

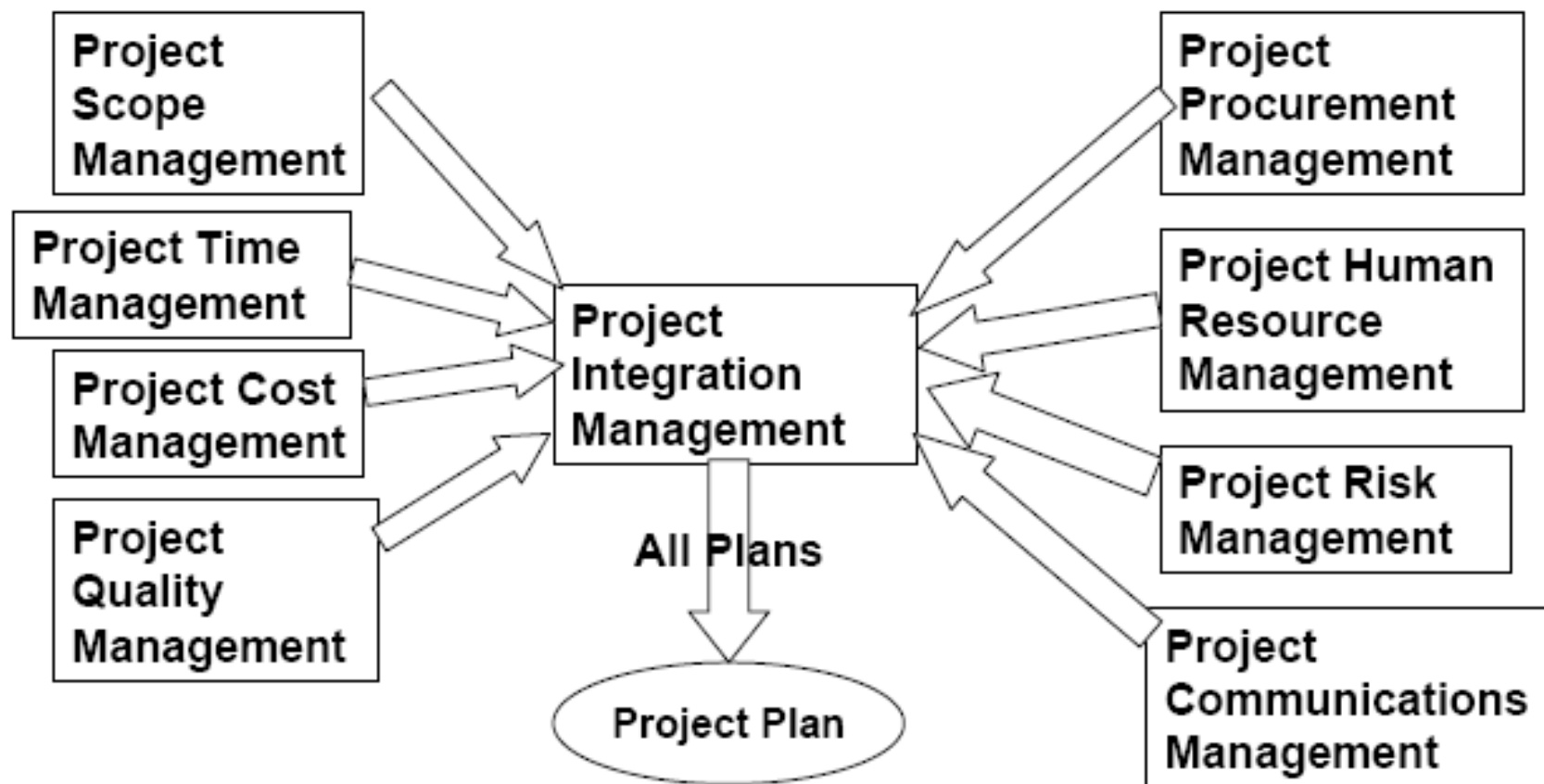
Phases \ PM Knowledge	Initiating	Planning	Executing	Controlling	Closing
Integration Management		Project plan Development	Project plan Execution	Integrated Change Control	
Scope management	Initiation	Scope planning, Scope definition		Scope Verification, Scope Change Control	
Time Management		Activity definition, Act duration Est, Act Sequencing, Schedule Dev.		Schedule control	
Cost Management		Resource planning, Cost Est, Cost Budgeting		Cost control	
Quality Management		Quality planning	Quality assurance	Quality control	
Human Resource Management		Org. planning, Staff Acquisition	Team development		

39 PM processes to the 5 PM LC Phases

Mapping PM processes to Life Cycle Phases...

Phases PM Knowledge	Initiating	Planning	Executing	Controlling	Closing
Communication s Management		Comm. Planning	Infor distribution	Performance reporting	Administra tive Closure
Risk Management		Risk Management planning, Risk identification, Risk analysis, Risk response planning		Risk monitoring & control	
Procurement Management					

Putting it all together



•Project Management Certification

- 1) PMI (Project Management Institute) provides certification as a Project Management Professional (PMP)**
- 2) The number of people earning PMP certification is increasing quickly, and the certification program department received ISO approval in 1999**
- 3) Other groups, like the Gartner Institute and the Singapore Computer Society, have their own IT PM Certification programs**

• HOMEWORK # 01

A software house has developed a customized order processing system for a client. You are an employee of the software house that has been asked to organize a training course for the end-users of the system. At present, a user handbook has been produced, but no specific training material. A plan is now needed for the project which will set up the delivery of the training courses. The project can be assumed to have been completed when the first training course starts. Among the things that will need to be considered are the following:

- training materials will need to be designed and created;
 - a timetable will need to be drafted and agreed;
 - date(s) for the course will need to be arranged;
 - the people attending the course will need to be identified and notified;
 - rooms and computer facilities for the course will need to be provided for.
- A. Identify the main stakeholders for this project.
- B. Draw up objectives for this project.
- C. For the objectives, identify the measures of effectiveness.
- D. For each objective, write down sub-objectives or goals and the stakeholders who will be responsible for their achievement.

• HOMEWORK # 02

The idea behind a project is that students should be able to access details of available placements via an intranet. When there is a placement opportunity for which they wish to be considered, they would be able to apply for it electronically. This would cause a copy of their CV, which would also be held online, to be sent to the potential employer.

Details of interviews and placement offers would all be sent by e-mail. While some human intervention would be needed, the process would be automated as far as possible.

You are required to produce a business case report for such an application, which justifies the potential development by showing that the value of its potential benefits outweigh its development and operational costs.

Create lists of the main benefits and costs for the project. You do not have to specify actual figures, just the headings under which they would appear.

Quick Quiz

- According to the PMBOK, the five process groups are
 - A. Initiation, planning, execution, resources, and quality
 - B. Initiation, scheduling, reporting, closeout, and approval
 - C. Analysis, design, building, development, and support
 - D. Initiation, planning, execution, control, and closeout