Midterm exam case:

PCC Training management system project Phuket Community College (PCC), an organization in PSU Phuket campus, would like to develop a short course management information system. Suppose you are a project manager of PCC, please write down the processes, input, and output that we should do for each phase of the project management life cycle (process groups) starting from the initiation. You shall focus on the processes related to Integration, Scope, Time, and Cost management knowledge areas. Please feel free to make reasonable assumptions to make the system development success and your answer looks practical. For example, a list of stakeholders, system requirements, etc. A proper template appeared on the Internet should be chosen to apply your answer. As there will be no oral presentation or discussion, any details that make your answer clear and understandable are welcomed in your paper.

Background information

One of the PCC missions is providing short course training for the public. Currently, we only use Google apps and Microsoft products for managing the information. Roughly the management routine consists of trainee registrations, fee payments (if any), attendant monitoring, issuing certificates of success, and alumni management. We plan to develop a web-based system to handle the training management process starting from the beginning till the end of a course. We expect to finish the implementation within one year. We do have our own development team and other resources enough to achieve it as an in-house development project (not outsourcing).

Hint:

1. The answer should be well organized with labelling the process numbers according to the attached figure. 2.
2. At least the following processes are expected from your exam answer: 4.1-4.3, 5.1-5.4, 6.1-6.6, 7.1-7.3.

Final examination instruction:

To complete the project manager job, use the same case as midterm exam and the "47 Processes" table provided below to:

1. (10 Marks) Improve your midterm exam answer (Processes 4.1-4.3, 5.1-5.4, 6.1-6.6, 7.17.3) by using the comments given in the marking of your paper.

2. (20 Marks) Develop the outputs for the rest of knowledge areas by focusing on the following processes: 5.5-5.6, 8.1-8.3, 10.1-10.3, and 4.6.

3. (10 Marks) For the processes and/or outputs that are not in questions (1) and (2), consider which processes and outputs you think they are necessary for this project.

Answer:

I am Sophal Chan, the project manager of PCC training management system project. In this case I would like to plan for 5 step to complete this project which are include: i) Project Initiation, ii) Project Planning, iii) Project Executing, iv) Project Monitoring and Controlling, and Closing the Project. By applying with the 9 knowledge areas from Project Manage Course will be discussed in each step of project. Thus, the next is the description and discussion of each project step:

1. Project Initiation

In the first step of project initiation. This step is the first phase of stating the project. With this step, it has two main process which include: i) Create the Project Charter and ii) Identify the Project Stakeholder [1].

1.1 Create the project Charter

With the respect to this process, it is the process of developing a document that formally authorizes a project and documenting initial requirements that satisfy the stakeholders needs and expectations. And the output of this process is: Project charter which will be shown the below table:

Project Charter

Project Title: PCC training management system **Start Date:** 01-03-2017 **Finish Date:** 01-03-2018

Budget Information: The budget is 1,500,000 Bath. The project is fully funded by Prince of Songkla University, Phuket Campus.

Project Manager: Sophal Chan, (+66) 992293840, sophalcamchan38@gmail.com

Project Objectives: To propose PCC training management system courses.

Approach: - Define the measurement to measure the website value.
- Assign the channel to communicate with all stakeholder well.
- Assign the certain and clearly requirement with sponsor.

Roles and Responsibilities

Role	**Name**	**Organization / Position**	**Contact Information**
PM	Mr. Sophal Chan	Project Manager	Sophalcamchan38@gmail.com
BA	Mr. Davy Sorn	Business Analyze	087-3996956, davy.s@hotmail.com
Developer	Mr. David Jame	Developer	086-4764467, jame.david@gmail.com
Developer	Mr. Borey Sok	Technical Manager	081-5365530, Sok.borey@gmail.com
SA	Mr. Ung Pkay	Developer	099-2293840, pkay.camung38@gmail.com
SA	Miss. Sokeang Heoung	System Analysis	099-5679081 heoungsokeang@gmail.com
User, Tester	Miss Dalin Theng	Tester	098-0321130, thengdalin94@gmail.com

Implementer	Miss Em Rachana	Implementer	098-0306488, 93rachana.em@gmail.com

Contract:
- Calling for progress meeting every Monday at MSIT'S room from 7.00 PM.
- Meeting with sponsor on Monday 11.00 A.M. every 2 weeks
- The major channel for communication is Line group.
- Update the project progress in teamwork before call for meeting in order to send the report to sponsor every 2 weeks by e-mail and update task in drive .
- Good teamwork.

1.2 Identify the project stakeholder

Process of identifying all people or organizations impacted by the project and documenting relevant information regarding their interests, involvement and impact on project success. **Outputs**: Stakeholder register, Stakeholder management strategy. With the respect to PCC training management system, the stakeholder register and stakeholder management strategy are shown in table 1 and table 2 below. These two table below are shown the stakeholder register and stakeholder management strategy.

Stakeholder Register

Name	Organization / Position	Internal/External	Project Role	Contact Information
Assoc. Prof. Puwadon Bootrat	Vice President	Internal	Sponsor	Puwadonbootrat.@phuket.psu.ac.th
Assoc. Prof. Rattana Wetprasit	CEO of PCC	Internal	Sponsor / Advisor	rattana.w@phuket.psu.ac.th
Mr. Sophal Chan	Project Manager	Internal	Project Manager	099-2293840 Sophalcamchan38@gmail.com
Mr. Davy Sorn	Business Analyze	Internal	Business Analyze	087-3996956, davy.s@hotmail.com
Mr. David Jame	Team Member	Internal	Developer	086-4764467, jame.david@gmail.com
Mr. Borey Sok	Team Member	Internal	Technical Manager	081-5365530, Sok.borey@gmail.com
Mr. Ung Pkay	Team Member	Internal	Developer	099-2293840, pkay.camung38@gmail.com

Miss. Sokeang Heoung	Team Member	Internal	System Analysis	099-5679081 heoungsokeang@gmail.com
Miss Dalin Theng	Team Member	Internal	Tester	098-0321130, thengdalin94@gmail.com
Miss Em Rachana	Team Member	Internal	Implementer	098-0306488, 93rachana.em@gmail.com
Mr. Dara Em	PR Director	External	Advisor	Dara.e@gmail.com

Table 1. Stakeholder Register

Stakeholder Management Strategy

Name	Level of Interest	Level of Influence	Potential Management Strategies
Puwadon Bootrat	High	High	Puwadon likes to stay on top of key projects and make money. Have a lot of short, face-to-face meetings and focus on achieving the financial benefits of the project.
Rattana Wetprasit	High	High	Ratta is the CEO of PCC that is want to run the PCC project, and also the person who give the budget as well.
Dara Em	Low	High	Dara has a lot of things on his plate, and he does not seem excited about this project. He may be looking at other job opportunities. Show his how this project will help the company and her resume.

Table 2. Stakeholder Management Strategy

Sign off the project

Name	Internal/External	Project Role	Contact Information	Signature
Assoc. Prof. Puwadon Bootrat	Internal	Sponsor	Puwadonbootrat.@phuket.psu.ac.th	
Assoc. Prof. Rattana Wetprasit	Internal	Sponsor / Advisor	rattana.w@phuket.psu.ac.th	
Mr. Sophal Chan	Internal	Project Manager	099-2293840 Sophalcamchan38@gmail.com	
Mr. Davy Sorn	Internal	Business Analyze	087-3996956, davy.s@hotmail.com	

Mr. David Jame	Internal	Developer	086-4764467, jame.david@gmail.com	
Mr. Borey Sok	Internal	Technical Manager	081-5365530, Sok.borey@gmail.com	
Mr. Ung Pkay	Internal	Developer	099-2293840, pkay.camung38@gmail.com	
Miss. Sokeang Heoung	Internal	System Analysis	099-5679081 heoungsokeang@gmail.com	
Miss Dalin Theng	Internal	Tester	098-0321130, thengdalin94@gmail.com	
Miss Em Rachana	Internal	Implementer	098-0306488, 93rachana.em@gmail.com	
Mr. Dara Em	External	Advisor	Dara.e@gmail.com	

2. Project Planning

With the respect to PCC training Management System, the project planning processes required to establish the scope of the project, refine the objectives and define the course of action required to attain the objectives of the project.

2.1 **Develop Project Management Plan (Integration):**

Process of documenting actions necessary to define, prepare, integrate and coordinate all subsidiary plans. In other world, this process is about creating the project management plan. **Outputs**: Project Management plan. With the project management plan, our team project will use Microsoft office such as world, excel to plan the project. Moreover, we look forward to use Microsoft project in the next due to lack of experience in Microsoft project. In this Project Management Plan will consist of Thus, the Project Management Plan is shown below:

PCC Training Management System

Introduction

This project is supported to train the sort course of Management Information System (MIS) which provide to everyone who want to study MIS. This project is given some benefit to management of information such as Business Intelligence (BI), Data Management., etc.

Objectives

- To provide the necessary short learning course of MIS.

- To give an easy understanding of PCC training System of MIS course.

Scope

- The result of this project is web-based system which provide a short learning course of MIS. In other words, to provide a website of MIS short course for everyone to access.
- Within this website, there are some values resource of MIS course which is included e-books, videos and some link that related to MIS. The deadline which include in implement for one year, the deadline will be on 01-03-2018.

Key Stakeholders

Client	Students and everyone who are interested in ITPM
Sponsor	Puwadon Bootrat and Rattana Wetprasit
Project manager	Sophal Cham

Resources and Tools

- HTML 5
- Javascript
- CSS 3
- CodeIgniter PHP Framework
- Bootstrap
- MIS resources (Over 1000 e-books, 1000 Videos + Links)

Milestone List

First, for sponsor meeting/update, our team have to send the update to project sponsor for every months. In addition, for progress meeting, we follow as waterfall software developing life cycle which have one per week of project progress meeting on every Wednesday afternoon. For other tasks will be shown in the table of milestone list below:

Milestone	Description	Date
Complete Requirements Gathering	All requirements for PCC must be determined to web-based architecture design upon	01/04/2017
Complete web architecture Design	All database, back-end and dataflow will be design	01/06/2017
Complete UI Design	The UI is design to get easy to understand and easy to use for normal user.	15/06/2017

Complete transaction Design	All the transaction of website will be discussed and designed to one agreement.	15/07/2017
Complete Coding	All coding with PHP framework and design is finished, By applying SEO to increase the performance of website.	01/09/2017
Complete Testing website	Use test case to test all the transaction of website	01/10/2017
Complete implementation	The rest of the time is to implement with SEO update and applying	01/03/2018
Closing the project	All process are done to close the project.	01/03/2018

Approval Signatures

Asst.Prof.Dr. Rattana Wetprasit Project Sponsor	Mr. Sophal Chan Project Manager

Scope Requirement:

For scope requirement to me, I think it is not necessary to make it because it is already specify from the sponsor (Aj. Rathana) already.

2.2 Collect requirements (Scope):

With the respect to PCC training management System, the process of collecting requirements the process of defining and documenting stakeholders' needs to meet the project objectives. And the output of this process contain 2 document types which include: eequirements documentation and requirements traceability matrix. The below description show the detail of Requirement Specification which include requirements documentation and requirements traceability matrix:

Requirement Specification

Review by:

Project Manager: Sophal Chan

Version: 1.0

Dated: 14 May 2017

Requirement Specification

Document Change Record

The below table is shown the Project Change Update in version1.0

Date	Version	Author	Change Description
6-02-17	1.0	All	Create Requirement Specification document

Document Review

The following table identifies all management authorities who have successively approved the present issue of this document.

No	Reviewer	Position	Sent	Returned
1.	Asst.Prof.Dr. Rattana Wetprasit	Project Sponsor	xx-xx-17	xx-xx-17

i. Introduction

This project is to support everyone who has a propose to study MIS. This is to address the problem of finding resources and information of MIS.

ii. The Stakeholders

- Sponsor
- Users
- Technology experts
- System architect
- Maintainers
- Support
- Current system specialists / Administer
- Project manager
- Business leaders
- Business analysts
- Designers
- Programmers
- Testers

iii. Use case for shared calendar

Functional Properties:

F1. The user must login or register.
F2. The user can connect gmail or facebook.
F3. User have to pay for some value document or course
F4. User can get certificate after finishing a short course
F5. The user can get links, videos, and e-books.
F6. The user can read online for links, videos, and e-books
F7. The user can search by title, author name, and keywords
F8. The user can search by date, rank and other.
F9. The user can preview links, videos, and e-books
F10. The user can share material on facebook

F11. The user can vote the rate on links, videos, and e-books
F12. The user can see notification for material update
F13. After finishe
F14. The administrator manage user
F15. The administrator upload material

iv. Requirements Description

MIS short course learning is the website for everyone who want to learn MIS by register then pay for short course to learn. After finishing a short course there is a certificate to provide by Prince of Songkla Universtiy, Phuket Campus. The learning material is included: e-books, Video teaching online and some useful like to follow.

iv.1 Functionality Requirements

UsrReq001

1. The product shall retrieve e-books, videos and links from data source and show sort the files by date, by alphabet of the name file, by popularity or by content.

UsrReq002

2. The product shall mange client by check username and password.

UsrReq003

3. The product shall support .pdf file types.

UsrReq004

4. The product shall have update files.

UsrReq005

5. The product shall have the preview feature before the user download the file. By reviewing the file, the users will not need to download the file if the information in the file is not useful to time.

UsrReq006

6. Search function is important for libraries. If the search function has high capability, it can satisfy the users. Good indexing means that when a user search by a keyword, not only the search function reads the tiles or headlines of the file but also it is necessary to look the text inside the documents.

UsrReq007

7. The product shall provide the popular files (Ranking) up-to-date so that users can know the trend and get up-to-date knowledge.

UsrReq008

8. The product shall have social sharing feature so that the members of the library can show the interesting files, videos and news of the library to their co-workers, friends and their society. Every time the files are shared, information about the library and the mission can lead to increasing awareness. Twitter and Facebook are popular social media for sharing information of libraries.

UsrReq009

9. The product shall have a popular online community platform that let the members of

library to get access the files from one central location.

UsrReq010

10. The product shall have notifications and alerts to users when there is update in the library. Sometimes, when the user search something but it is not on the library. So, the library asks the users to send notification when the file is available on the library. Some libraries have this feature.

UsrReq011

11. The User have to pay for short course of MIS course, then after finish the certificate will be provided.

iv.2 Non-Functionality Requirements

iv.2.1 Performance Requirements

NFRsReq001

1. Any interface between a user and the automated system shall have a maximum response time of 5 seconds.

NFRsReq002

2. The product shall download the real data within 5 minutes of a change.

NFRsReq003

3. The product shall cater for 10,000 simultaneous users and maximum loading at other periods will be 6,000 simultaneous users.

iv.2.2 Reliability and Availability Requirements

NFRsReq004

4. The product shall be available for use 24 hours per day, 365 days per year.

iv.2.3 Security Requirements

NFRsReq005

5. The product shall provide 10 minutes of emergency operation should it become disconnected from the source or the product shall protect itself from intentional abuse.

NFRsReq006

6. Only administrator can see the personnel records of their user.

NFRsReq007

7. The security settings depend on the founders of library. Some files can be accessed only by the members of the libraries.

NFRsReq008

8. The product shall protect private information in accordance with the relevant privacy laws and the organization’s information policy.

NFRsReq009

9. Personal information shall be implemented so as to comply with the Data Protection Act.

3.2.3

Usability Requirements

NFRsReq010

10. The product shall be easy for bachelor's student to use.

NFRsReq011

11. The product shall be used by people with no training, and possibly no understanding of English.

NFRsReq012

12. The product shall be able to be used by members who will no receive training before using it.

NFRsReq013

13. The product shall use symbols and words that are naturally understandable by the user community.

NFRsReq014

14. The product shall hide the details of its construction from the user or the product shall be usable by partially sighted users.

3.2.4 Look and Feel Requirements

NFRsReq015

15. The product shall comply with the Window and Smart phone guideline.

NFRsReq016

16. The product shall appear simple to use.

NFRsReq017

17. The product shall have the white-gray theme and the style is neat and tidy.

iv.3 Mandated Constraints

1. The product shall connect to the Internet.
2. The product shall operate using Windows and Mac OS (Web Application).
3. The product shall operate using Smart phone android and IOS.

Requirement Traceability Matrix

Requirement No.	Name	Category	Source	Status
R1	Laptop	Hardware	Project Charter and cooperate laptop specification	Complete, laptop order meet the requirement.
R2	Keyboard	Hardware	Project Charter and cooperate laptop	Complete, Keyboard order meet the

			specification	requirement.
R3	Monitor	Hardware	Project Charter and cooperate laptop specification	Not complete, Monitor order does not meet the requirement.

Asst.Prof.Dr. Rattana Wetprasit
Project Sponsor

Miss Thiwatip Sriraksa
Project Manager

2.3 Define scope (Scope):

In the planning step, the defining scope process is another process of developing a detailed description of the project and product. With the respect to the PCC project the output of this prefer to be Project Scope Statement and Project Document Update. These two documentation will show the detail of project and product: **(Outputs:** Project scope statement, project document updates)

PCC Training Management System
Project Scope Statement

Project Name: PCC Training Management System on MIS short training Course.
Team Member: Davy Sorn, David Jame, Dalin Theng, Borey Sok, Sokeang Heoung, Ung Pkay.
Project Manager: Sophal Chan.
Date: Monday, 13/04/2017

Prepared by:

Document Owner	Project/Organization Role
Sophal Chan	Project Manager
Davy Sorn	Scope Manager

Project Closure Report Version Control

Version	Date	Author	Change Description
1	13/04/2017	Sophal Chan	Create document…
2	30/04/2017	Davy Sorn	Update document…
3			Revise document…

Table 3. Project Document Updates

2.4 Create WBS (Scope):

The creation of work breakdown structure (WBS) is another process in project planning which in this project is a process of subdividing project deliverables and project work into smaller, more manageable components. Generally, the **Outputs of this process include**: WBS, WBS dictionary, scope baseline, project document updates. The detail below will show the format and detail of WBS, WBS Dictionary, Scope Baseline, and Project Document Update with respectively to PCC training System.

Work Breakdown Structure

With the work breakdown structure, we prefer to use the tabular view of WBS is shown like below:

Level 1	**Level 2**	**Level 3**
PCC training management System	1.1 Initiation	1.1.1 Evaluation & Recommendations 1.1.2 Develop Project Charter 1.1.3 Deliverable: Submit Project Charter 1.1.4 Project Sponsor Reviews Project Charter 1.1.5 Project Charter Signed/Approved
	1.2 Planning	1.2.1 Create Preliminary Scope Statement 1.2.2 Determine Project Team 1.2.3 Project Team Kickoff Meeting 1.2.4 Develop Project Plan 1.2.5 Submit Project Plan 1.2.6 Milestone: Project Plan Approval
	1.3 Execution	1.3.1 Project Kickoff Meeting 1.3.2 Verify & Validate User Requirements 1.3.3 Design System 1.3.4 Procure Hardware/Software 1.3.5 Install Development System 1.3.6 Upload MIS resource to system 1.3.7 Testing Phase 1.3.8 User Training
	1.4 Control	1.4.1 Project Management 1.4.2 Project Status Meetings

		1.4.3 Risk Management 1.4.4 Update Project Management Plan
	1.5 Closing	1.5.1 Audit Procurement 1.5.2 Document Lessons Learned 1.5.3 Update Files/Records 1.5.4 Gain Formal Acceptance 1.5.5 Archive Files/Documents

Table 4. WBS of PCC Training System

WBS Dictionary

Project Title: PCC Training Management System **Date Prepared:** 24/03/2017

Work Package Name: Testing						**WBS ID: 1.3.7**			
Description of Work: There will be accessibility testing for the website. There will be testing to make sure all transaction of website work correctly. There will be testing all the resource of MIS which will be available on the system.									
Milestones: **1.** Website feature testing complete **2.** Integration testing complete **3.** Resource accessibility testing complete						**Due Date:** 14/07/2017 20/08/2017 10/09/2017			
ID	**Activity**	**Resource**	**Labor**			**Material**			**Total cost**
			Hours	**Rate**	**Total**	**Unit**	**Cost**	**Total**	
1.3.7.1	Website testing	PM	10	1000 bth	10000 bth				10000 bth
1.3.7.2	Hyperlink Testing	PM	10	1000 bth	10000 bth				10000 bth
1.3.7.3	MIS resource accessibility testing	PM	83	1000 bth	83000 bth				83000 bth
1.3.7.4	Integration testing	PM	10	1000 bth	10000 bth				10000 0bth
Quality Requirement: Website must be have registration form and can accessible for all MIS resource.									
Acceptance Criteria: Website must be accessibility for each registration user to take short training course on MIS.									
Technical Information: After training course, the certificate will be provided.									
Contract Information: Testing will be conducted by the Project manager in charge of the area to be tested.									

Table 5. An example of WBS Dictionary in testing phase.

For **Scope Baseline,** require 3 documentations which is included: Scope Statement, WBS and WBS dictionary. All these 3 documentation have done already with tables above. The purpose of scope baseline is outlining the requirement for the scope of project and the work will be broken down.

On the other hand, **Project Document Update,** is the combination of all work to be updated.

2.5 Plan Schedule Management:

In plan schedule management, it is the process of establishing the policies, procedures, and documentation for planning, developing, managing, executing, and controlling the project schedule. The key benefit of this process is that it provides guidance and direction on how the project schedule will be managed throughout the project. The figure below is show the example of PCC plan schedule management: (**Output**: PCC Plan Schedule Management)

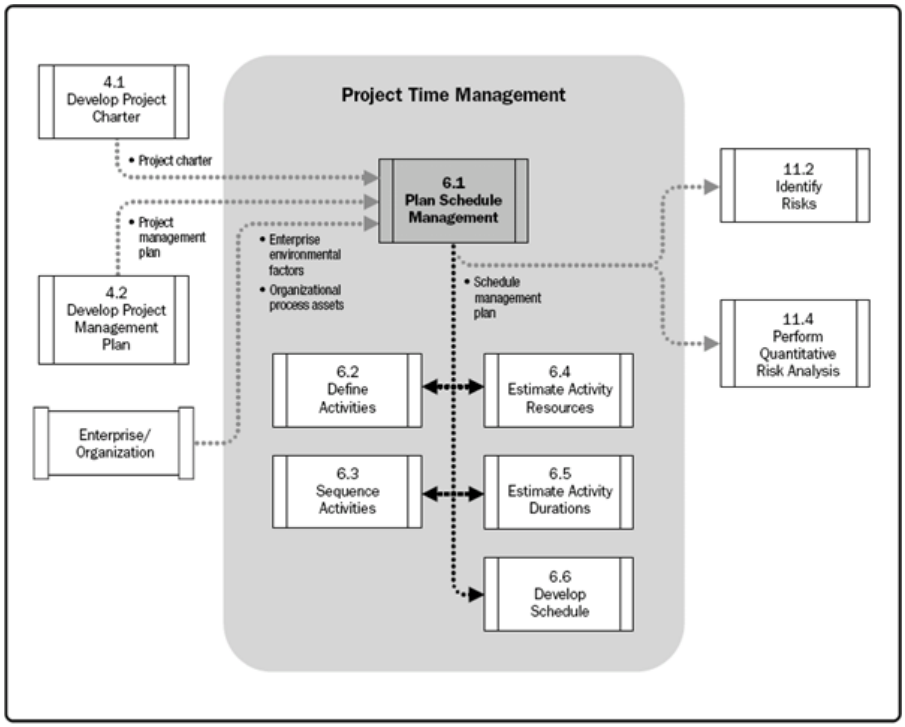


Figure 1. Plan Schedule Management data flow diagram of PCC.

2.6 Define activities (Time):

In this process, the defining activities of project has been offered. It is a process of identifying the specific actions to be performed to produce the project deliverables. **Outputs**: Activity list, activity attributes, milestone list.

Activity List of PCC project

Activity	Activity Description	Immediate Predecessors	Estimated Duration
A	Finding MIS Resource	_	Update every time
B	Buy google's Domain	A	1week
C	Backend (database design)	B	2 weeks
D	UI design	C	4 weeks

E	Install atom and coding	D	8 weeks
F	Set SEO	E,F	4 weeks

Table 6. Activity List of PCC Project.

Activity Attributes of PCC Project

Project Title: PCC Training Management System **Date Prepared:** 24/05/2017

ID: C			**Activity**: Backend (database design)		
Description of Work: The database design activity is an activity which has many process, it is included data flow design, UML design ,etc.					
Predecessors	**Relationship**	**Lead of Lag**	**Successor**	**Relationship**	**Lead or Lag**
B	**Start-to-Finish**	**Lead**	**D**	**Start-to-Start**	**Lag**
Number and Type of Resource require: 2 people		**Skill Requirement:** Coding, Business Analysis and System Analysis.			**Other requirement resource:** --
Type of Effort:					
Location of Performance:					
Imposed Dates or Other Constraints:					
Assumption:					

Table 7. Activity Attributes of PCC Project

Milestone List of PCC Project

Project: PCC training system management on MIS short Course training.			Date:15/05/2017	
Milestone No.	**Milestone**	**Mandatory/ Optional**	**Completion Date**	**Verification**
001	Project Start	Mandatory	01/04/2017	Sponsor Approval
002	Complete Gathering Requirements	Mandatory	16/04/2017	Sponsor Approval
003	Complete Design	Mandatory	15/05/2017	Sponsor Approval
004	Complete Coding	Mandatory	10/07/2017	Sponsor Approval
005	Complete Testing	Mandatory	11/10/2017	Sponsor Approval
006	Complete Implementation	Mandatory	01/03/2018	Sponsor Approval
007	Project End	Mandatory	01/03/2018	Sponsor Approval

Table 8. Milestone List of PCC project.

The sponsor approve in this case refer to all document and tasks have been finished, so the sponsor can read and understand then need to be approve.

2.6 Sequence activities (Time):

In the sequence activities process, the order of activity in the project will be discussed. With the respect to PCC project, sequence activities process is a kind of process which identifying and documenting relationships among the project activities. The **Outputs:** Project schedule network diagram, project document updates:

Project schedule network diagram

A **project network** is a graph (flow chart) depicting the sequence in which a project's terminal elements are to be completed by showing terminal elements and their dependencies. It is always drawn from left to right to reflect project chronology. Due to drawing the project network diagram is quite difficult with some software so the PM is decided to make it via Microsoft word to be as the schedule allocation.

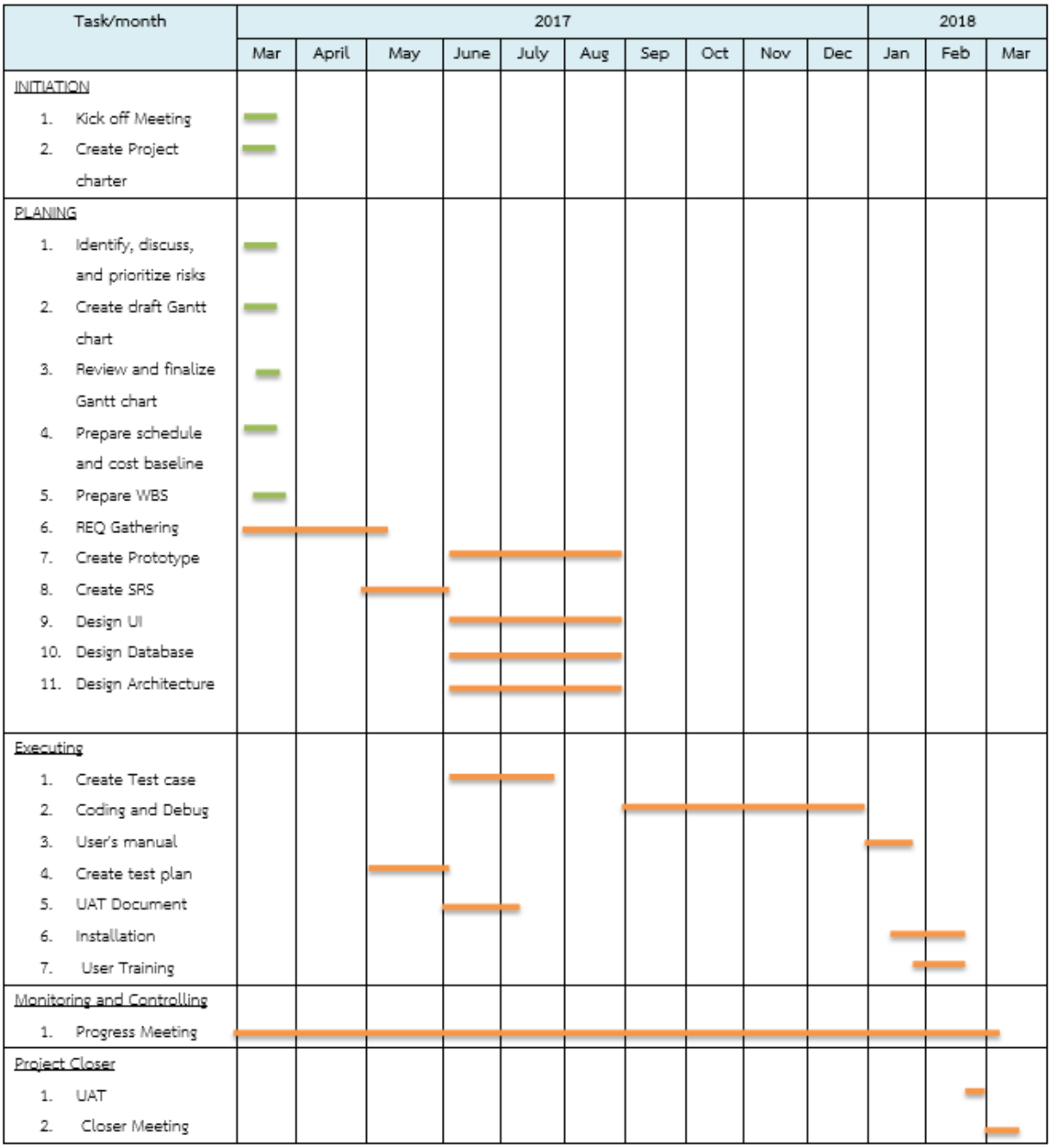


Figure 2. Schedule Allocation.

After the project schedule network diagram is finished, the some document will update. Thus, it will case to make a new documentation which call **Project Document Updates.** In this case the document version control is being discus, document version control refer to a method for controlling and reporting on all versions and revisions of documents is implemented and operating.

2.7 Estimate activity resources (Time):

Estimating activity resources is a process of estimating the type and quantities of material, people, equipment, or supplies required to perform each activity. **The Outputs of this process include:** Activity resource requirements, resource breakdown structure, and project document updates.

Activity Resource Requirements

Project Title: PCC Training Management System

Date Prepared: 24/03/2017

WBS ID	Type of Resource	Quality	Assumptions
1.1 Initiation			
1.1.1	Evaluation & Recommendations	**2**	**People**
1.1.2	Develop Project Charter	**6**	**People**
1.1.3	Deliverable: Submit Project Charter	**7**	**People**
1.1.4	Project Sponsor Reviews Project Charter	**10**	**People**
1.1.5	Project Charter Signed/Approved	**8**	**People**

Table 9. Example of Activity Resource Requirement of PCC Project

Resource Breakdown Structure

Project Name	PCC training management system on MIS short training course	Date	06/06/2017
Project Number	01	Document Number	04
Project Manager	Sophal Chan	Project Owner/Client	Rattana Wetprasit

RBS Code /ID	Resource Categories and Types	Quantity	Notes
R1.	Project	8	
R1.1	Labor	1	
R1.1.1.	Project Management	2	
R1.1.1.1	Project Manager	1	
R1.1.1.2.	Assistant Project Manager	1	
R1.1.2.	Software Development	6	
R1.1.2.1.	Solutions Architect	1	
R1.1.2.2.	Development Lead	1	
R1.1.2.3.	Developer	1	
R1.1.2.4.	Developer	1	

			R1.1.2.5.	Tester	1	
			R1.1.2.6.	Trainer	1	
	R1.2.			Equipment	8	
		R1.2.1.		Hardware	2	
			R1.2.1.1.	Laptop	2	
			R1.2.1.2.	Laptop	2	
			R1.2.1.3.	Projector	1	
			R1.2.1.4.	Printer	1	
		R1.2.2.		Software	3	
			R1.2.2.1.	Visio	1	
			R1.2.2.2	Atom	2	
	R1.3.			Supplies	5	
			R1.3.1.	Ink	1	
			R1.3.2.	Paper	1	
			R1.3.3.	Binders	3	
	R1.4			Locations		
		R1.4.1		Prince of Songkla University, Phuket Campus		

Table 10. Resource Breakdown Structure of MIS short training course of PCC project.

The last documentation of this process is **project document updates**, which combine all files updated from activity resource requirement and resource breakdown structure.

2.8 Estimate activity duration (Time):

The process of estimate activity duration is a process of approximating the number of work periods needed to complete individual activities with estimated resources. **Outputs of this process are:** Activity duration estimates and project document updates.

Activity Duration Estimates

Project Name	PCC training management system on MIS short training course	Date	15/06/2017
Project Number	01	Document Number	05
Project Manager	Sophal Chan	Project Owner/Client	Rattana Wetprasit

WBS ID #	Activity	Human Resources	Effort in Number of Hours	Duration Estimate	Level of Confidence	Additional Information
1.1.1	Evaluation & Recommendations	xx	10	2 days	High	
1.1.2	Develop Project Charter	xx	10	2 days	Medium	

1.1.3	Deliverable: Submit Project Charter	xx	20	1 week	High	
1.1.4	Project Sponsor Reviews Project Charter	xx	10	2 days	High	
1.1.5	Project Charter Signed/Approved	xx	2	1 day	High	

Table 11. Initiation Activity Duration Estimate of PCC MIS training Course.

The table 11 above is just an example of one main activity (project initiation), which in one project there are many activities. With the respect to PCC training MIS short course, the p**roject document updates** will be updated after the activity duration estimates is finished.

2.9 Develop Schedule (Time):

In this process, Develop Schedule will be analyst activity sequences, durations, resource requirements and schedule constraints to create the project schedule. The **Outputs include:** Project schedule, schedule baseline, schedule data, project document updates:

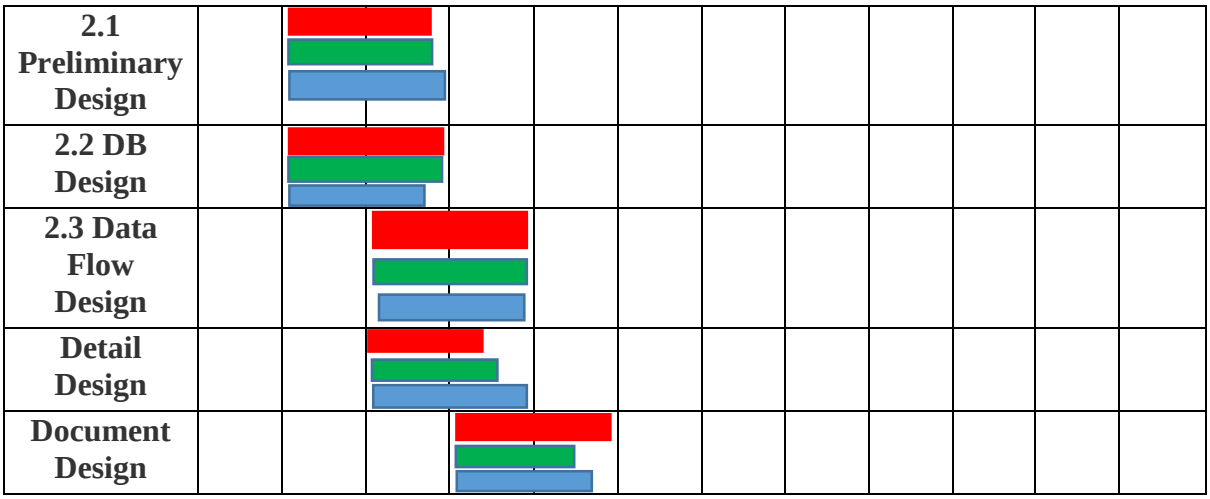
Project Schedule of PCC MIS short Course Training

Activity Name	Mar 2017	Apr 2017	May 2017	June 2017	July 2017	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017	Jan 2018	Feb 2018
2.0 Design phase												
2.1 Preliminary Design												
2.2 DB Design												
2.3 Data Flow Design												
Detail Design												
Document Design												

Table 12. Example of Design Activity for Project Schedule in PPC MIS training.

Schedule Baseline

Activity Name	Mar 2017	Apr 2017	May 2017	June 2017	July 2017	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017	Jan 2018	Feb 2018
2.0 Design												

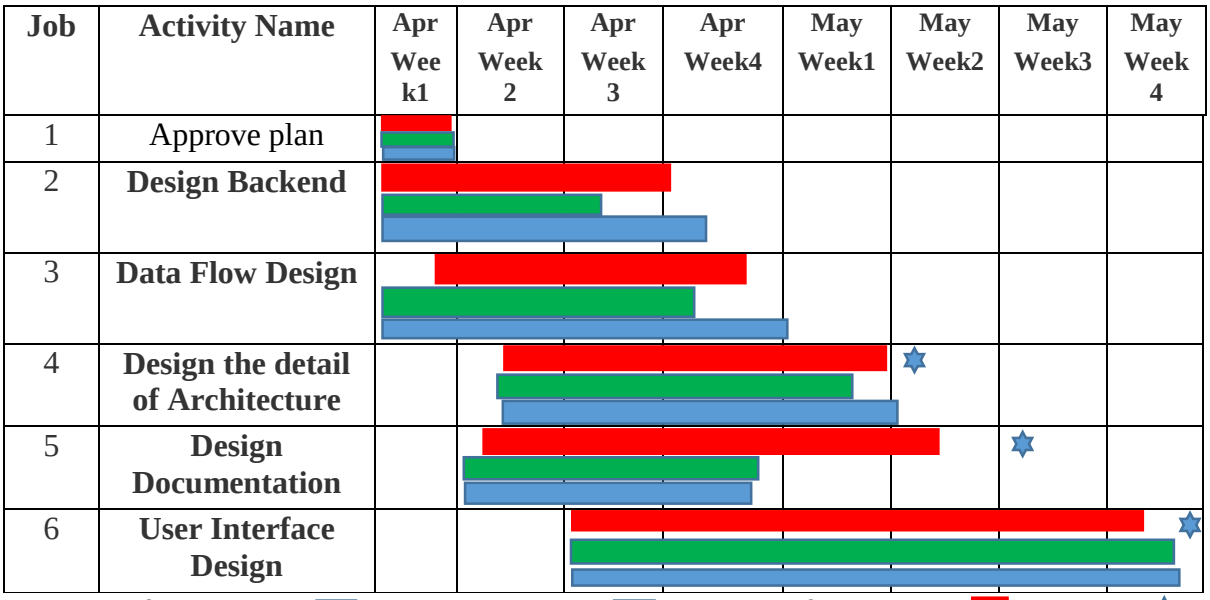


Duration of Normal Job Baseline Schedule Duration of Critical job

Table 13. Schedule Baseline of Design Activity for PCC Project

The critical job in this case refer to the take which is hurry to finish by sponsor with the time limitation or the tasks which is near the deadline.

Schedule Data



Duration of Normal Job Baseline Schedule Duration of Critical job Milestone

Table 13. Schedule Baseline of Design Activity for PCC Project

2.10 Estimate costs (Cost): Process of developing an approximation of the monetary resources needed to complete project activities. **Outputs:** Activity cost estimates, basis of estimates, project document updates

Activity Cost Estimates										
Project: PCC training management System on MIS short course training								Date: 03/06/2017		
WBS No.	Resource	Direct Costs	Indirect Costs	Reserve	Estimate	Method	Assumptions/ Constraints	Additional Information	Range	Confidence Level
3.1.1	2 Developers for 50 hours	50 hrs @ ฿1000 = ฿50000	$0	฿1000	฿50000	Parametric	Must obtain functional manager approval to assign developer	N/A	xx-xx	8
3.1.1	Tester for 20 hours	20 hrs @ ฿500 = ฿10000	$0	฿500	฿10000	Parametric	Assume all functionality and transaction of website will be available to access, search and register to MIS course.	N/A	xx - xx	7
3.1.1	External Advisor		12 hrs @ ฿1000 = ฿ 12000	$0	$504	Parametric	The idea of design and promotion to everyone to get and easy to understand	N/A	xx-xx	9

Table 14.Activity Cost Estimate of PCC Project.

Basis of Estimate								
Project: PCC training management System on MIS short course training						**Date:** 01/07/2017		
WBS Element: 1 Project Planning:								
Category	**Material**	**Labor**	**Indirect Costs**	**Base Cost**	**Reserve**	**Total Cost**	**Funding Source**	**Cost Methodology**
Planning	฿12000	฿100000	$0.00	฿100000	฿10000	฿122000	New Product Dev.	Parametric

WBS Description: Complete the planning of PCC on MIS training short course project in preparation for web architecture and database design. .								
Cost Description: Labor is all inclusive of WBS element 1. Includes 80 man hours of work performed at ฿1000 per hour. Management reserve of 10% has been identified based on a confidence level of 90%. Pricing was derived from existing hourly rates for one PMO employee and two Design Technology Group employees. Additionally, an update to PCC training management system on MIS training course web site.								
WBS Element: 1.1 Gather Requirements								
Category	**Material**	**Labor**	**Indirect Costs**	**Base Cost**	**Reserve**	**Total Cost**	**Funding Source**	**Cost Methodology**
Planning	฿12000	฿50000	$0.00	฿50000	฿8000	฿70000	New Product Dev.	Parametric
WBS Description: Gather requirements for new Pro PCC MIS short training course								
Cost Description: Labor is all inclusive of WBS element 1.1. Includes 60 man hours of work performed at ฿1000 per hour. Management reserve of 10% has been identified based on a confidence level of 90%. Pricing was derived from existing hourly rates for one PMO employee and two Design Technology Group employees. Material cost for update to PCC training management system is included under WBS item 1.1.2.								

Table 15. Example of Basic of Estimate on Planning and Gather Requirement phase on PCC MIS Training Course.

2.11 Determine budget (Cost):

Determine budget is a process of aggregating the estimated costs of individual activities or work packages to establish an authorized cost baseline. Generally the Outputs of this process are: Cost performance baseline, project funding requirements and project document updates:

Cost Performance Baseline

According to http://www.gristprojectmanagement.us give a basic definition of cost performance baseline that “The cost performance baseline is an authorized time-phased budget used to measure, monitor, and control overall cost performance on the project. It is developed as a summation of the approved budgets by time period and is typically displayed in the form of an S-curve”, as is illustrated in Figure 3. The figure 3 just show the assumption of PCC MIS training course with funding requirement, cost baseline and expected cash flow.

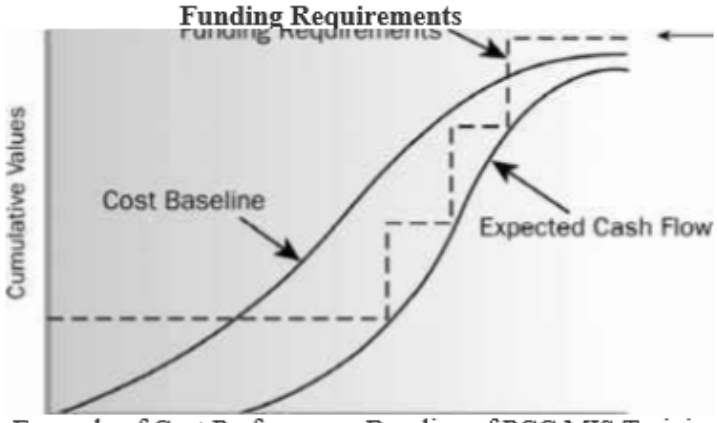


Figure 3. Example of Cost Performance Baseline of PCC MIS Training Course.

Project Funding Requirements

Project Funding Requirements													
Project: PCC training management System on MIS short course training							Date: 05/07/2017						
Project Phase	**Funding Type**	**Mar/17**	**Apr/17**	**May/17**	**Jun/17**	**Jul/17**	**Aug/17**	**Sep/17**	**Oct/17**	**Nov/17**	**Dec/17**	**Jan/17**	**Feb/17**
Initiation	Manpower	฿ 200000											
Initiation	Equipment / Capital	฿ 10000											
Planning	Manpower		฿200000										
Planning	Equipment / Capital		฿50000										
Design	Manpower				฿250000								
Design	Equipment / Capital				฿20000								
Prototype Build	Manpower						฿ 300000						
Prototype Build	Equipment / Capital						฿20000						
Testing	Manpower							฿80000					

Testing	Equipment / Capital						฿20000					
Transition to Operations	Manpower							฿100000				
Transition to Operations	Equipment / Capital							฿40000				
Project Closeout	Manpower										฿200000	
Project Closeout	Equipment / Capital										$0	
Totals		฿ 210000	฿250000		฿270000		฿ 320000	฿ 100000	฿140000		฿200000	

*This table includes a 5% management reserve for each project phase.

Table 16. Project Funding Requirement of PCC MIS training Course.

3. Project Executing

Processes performed to complete the work defined in project management plan to satisfy the project specifications. In this step, there are some major processes, which is included:

3.1 Direct & Manage project execution (Integration): Process of performing the work defined in the project management plan to achieve the project's objectives. **Outputs:** Deliverables, work performance information, change requests, project management plan updates, and project document updates

Deliverables

Del. no.	Deliverable name	Workpackage no.	Date due	Actual/Forecast delivery date	Estimated indicative person-months *)	Used indicative person-months *)	Lead contractor
D6	Trace XML	WP3	14/06/2017	14/06/2017	13,0		xx
D7	TraceSW and Browser	WP4	20/06/2017	20/06/2017	17,0		xx
D8	TraceXML.org website	WP6	30/06/2017	30/06/2017	8,0		xx
D9	Pilot experiments report	WP 5	14/07/2017	14/07/2017	77,5		xx
D10	Methodology and protocol review	WP 2 WP 3	21/07/2017	21/07/2017	22,0		xx
D11	Final project website and brochures	WP 6	01/08/2017	01/08/2017	6,0		xx
D12	Exploitation plan	WP 7	08/08/2017	08/08/2017	19,0		xx
D13	Training activities report	WP 8 WP 9	14/08/2017	14/08/2017	40,1		xx
D14	Plan for using and disseminating MIS resource	WP 7	20/08/2017	20/08/2017	4,5		xx
D15	Trace responsive technology to web site.	WP 4 WP 5	24/08/2017	24/08/2017	7,5		xx

Table 17. Deliverables list of PCC MIS training Course

Work Performance Information

3.2 Acquire project team (Human Resource): Process of confirming human resource availability and obtaining the necessary team to complete project assignments. **Outputs:** Project staff assignments, resource calendars, project management plan updates

3.3 Perform quality assurance (Quality): Process of auditing the quality requirements and the results from quality control measurements to ensure appropriate quality standards are used. **Outputs:** Organization process assets updates, change requests, project management plan updates, project document updates

3.4 Develop project team (Human Resource): Process of improving the competencies, team interaction and the overall team environment to enhance project performance. **Outputs:** Team performance assessments, enterprise environmental factors updates

3.5 Manage project team (Human Resource): Process of tracking team member performance, providing feedback, resolving issues and managing changes to optimize project performance. **Outputs**: Enterprise environmental factors updates, organization process assets updates, change requests, project management plan updates

3.6 Distribute Information (Communication): Processing of making relevant information available to project stakeholders, as planned. **Output:** Organization process assets updates

3.7 Manage stakeholder expectations (Communication): Process of communicating and working with stakeholders to meet their needs and addressing issues as they occur. **Outputs:** Organization process assets updates, change requests, project management plan updates, project document updates

3.8 Conduct procurements (Procurements): Process of obtaining seller responses, selecting a seller and awarding a contract. **Outputs:** Selected sellers, procurement contract award, resource calendars, change requests, project management plan updates, project document updates

4. Project Monitoring and Controlling

Processes required to track, review and regulate the progress and performance of the project.

4.1 Monitor & Control project work (Integration): Process of tracking, reviewing and regulating the progress to meet the performance objectives defined in the project management plan. **Outputs:** Change requests, project management plan updates, project document updates

4.2 Perform Integrated Change control (Integration): Process of reviewing all change requests, approving changes and managing changes to the deliverables, organization process assets, project documents and project management plan. **Outputs:** Change requests status updates, project management plan updates, project document updates

4.3 Verify scope (Scope): Process of formalizing acceptance of the completed project deliverables. **Outputs:** Accepted deliverables, change requests, project document updates

4.4 Control scope (Scope): Process of monitoring the status of the project and product scope and managing changes to the scope baseline. **Outputs:** Work performance measurements, organization process assets updates, change requests, project management plan updates, project document updates

4.5 Control schedule (Time): Process of monitoring the status of the project to update project progress and managing changes to the schedule baseline. **Outputs:** Work performance measurements, organization process assets updates, change requests, project management plan updates, project document updates

4.6 Control costs (Cost): Process of monitoring the status of the project to update the project budget and managing changes to the cost baseline. **Outputs:** Work performance measurements, budget forecasts, organization process assets updates, change requests, project management plan updates, project document updates

4.7 Perform quality control (Quality): Process of monitoring and recording results of executing the quality activities to assess performance and recommend necessary changes. Outputs are quality control measurements, validated changes, validated deliverables, organization process assets updates, change requests, project management plan updates, project document updates

4.8 Report performance (Communication): Process of collecting and distributing performance information including status reports, progress measurements and forecasts. **Outputs:** Performance reports, organization process assets updates, change requests

4.9 Monitor and control risks (Risk): Process of implementing risk response plans, tracking identified risks, monitoring residual risks, identifying new risks and evaluating risk process effectiveness throughout the project. **Outputs:** Risk register updates, organization process assets updates, change requests, project management plan updates, project document updates

4.10 Administer procurements (Procurements): Process of managing procurement relationships, monitoring contract performance and making changes/corrections as needed. **Outputs:** Procurement documentation, organization process assets updates, change requests, project management plan updates

5. Closing The Project

Process performed to finalize all activities across all process groups to formally close the project or phase.

5.1 Close project or phase (Integration): Process of finalizing all activities across all of the project management process groups to formally complete the project or phase. **Outputs:** Final product, service or result transition, organization process assets updates

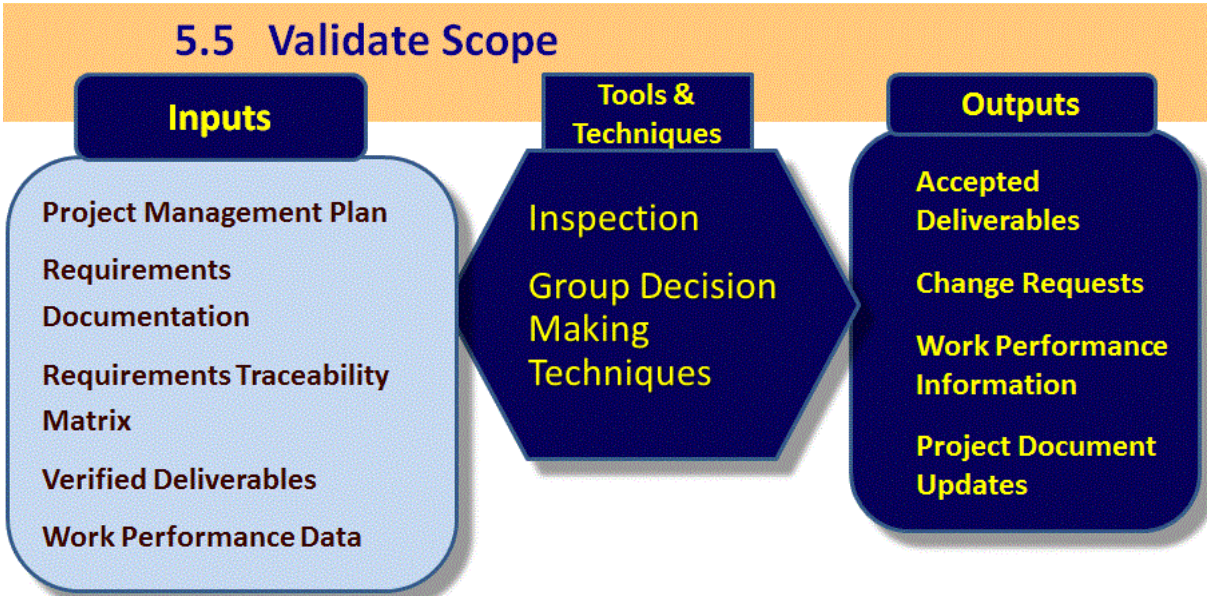
5.2Close procurements (Procurement): Process of completing each project procurement. **Outputs :** Closed procurements, organization process assets updates

End for Midterm

Final Exam Answer

With the respect to final exam the tasks will be focused on:

1. **5.5 Validate scope or Verify scope**: Verify scope is a process of formalizing acceptance of the completed project deliverables. Outputs: Accepted deliverables, change requests, project document updates and work performance information. The accepted deliverable below is just an example of design phase for accepting from client and sponsor. In generally, the accepted deliverable has so many file to be done, but in this case I just put one example on design phase. To be sure, I will put a figure to show the validate scope which is shown in the below:



Accepted deliverable.

Project Title: PCC Training Management System

Deliverable Name	Design Phase
Acceptance Criteria	UI design, preliminary, data flow, detail and document design.
Verification Method	All team member have to check all task and need to be confirm that it is really finish.
Validation Method	The sponsor check all the task which are finish compare to the requirement that already signed.
Client Name	Assoc. Prof. Rattana Wetprasit
Client Signature	
Signature Date	15/08/2017

Table 18. Accepted Deliverable of PCC Training Management System.

Change Request

For this document, change request happened when get the request from sponsor. In this case there is no request from sponsor. Hence, there is no change request.

Project document updates

For project document updates refer to all document that already updated from the phase accepted deliverable and other document.

2. **5.6 Control Scope:** with the respect to a well-known website safaribooksonline.com, Control Scope is the process of monitoring the status of the project and product scope and managing changes to the scope baseline. The key benefit of this process is that it allows the scope baseline to be maintained throughout the project. The inputs, tools and techniques, and outputs of this process are depicted in these 2 figures below:

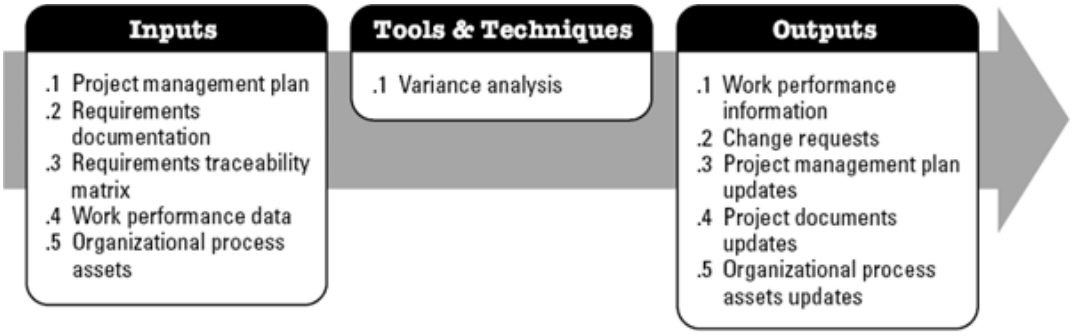


Figure 5-16. Control Scope: Inputs, Tools & Techniques, and Outputs

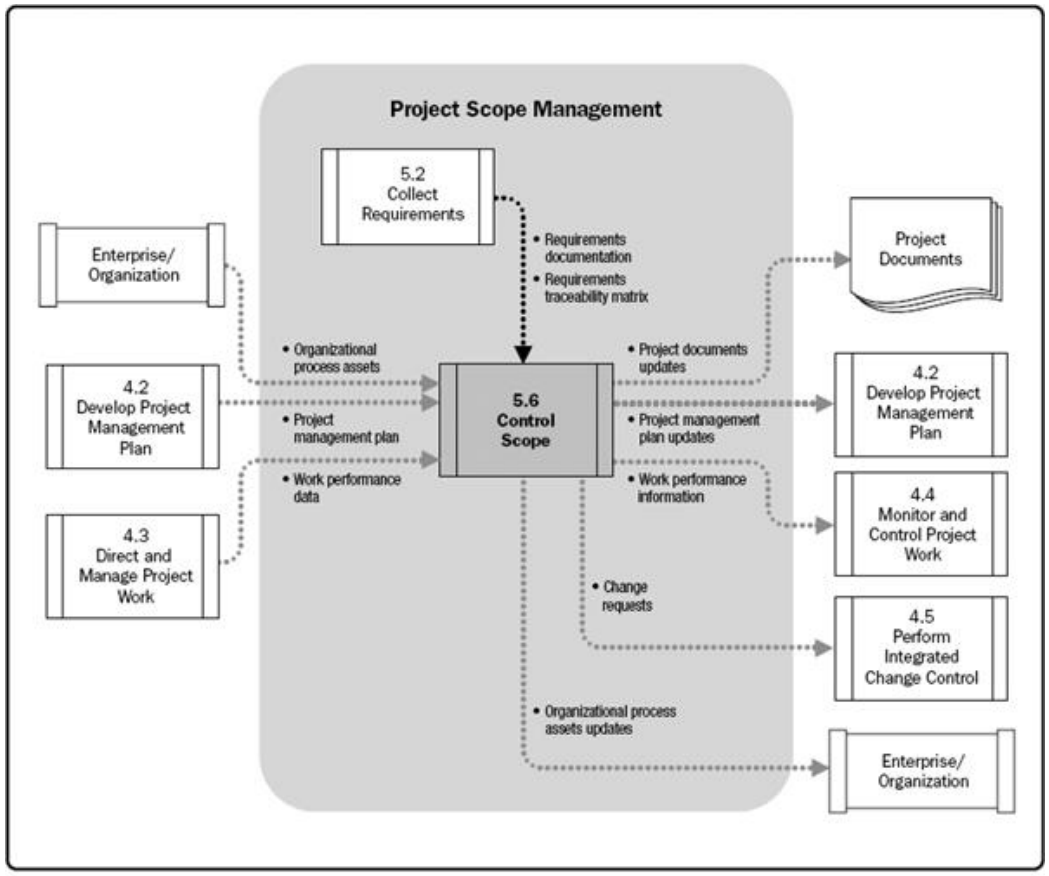


Figure 5-17. Control Scope Data Flow Diagram

Work Performance Information

For work performance information is a document which is show the performance for each task in order to make PM easy to control the scope, and the rest of other documents are updated.

3. **8. Quality Management**: In this phase is the sup-process of quality management. With the respect to textbook, Information Technology Project Management by Kathy, the process of quality management is show in the figure below:

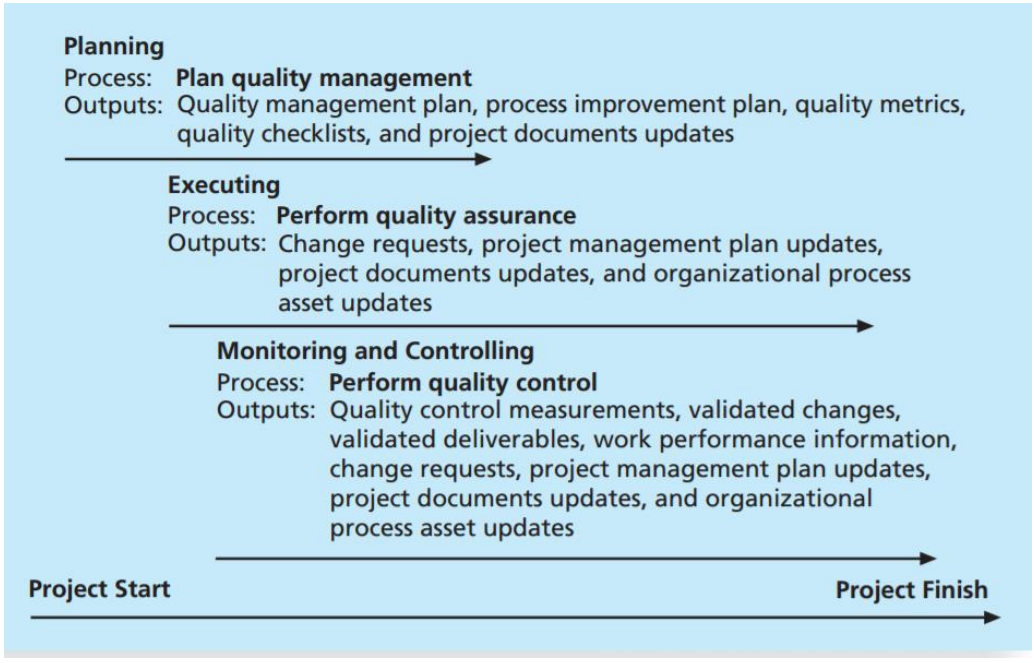


Table 19. The Summary of Quality Management

With the requirement of final exam, the 3 processes (plan quality management, perform quality assurance and perform quality control) are discussed.

8.1 Plan Quality Management

With the respect to a well-known website safaribooksonline.com, Plan Quality Management is the process of identifying quality requirements and/or standards for the project and its deliverables, and documenting how the project will demonstrate compliance with relevant quality requirements. The key benefit of this process is that it provides guidance and direction on how quality will be managed and validated throughout the project.

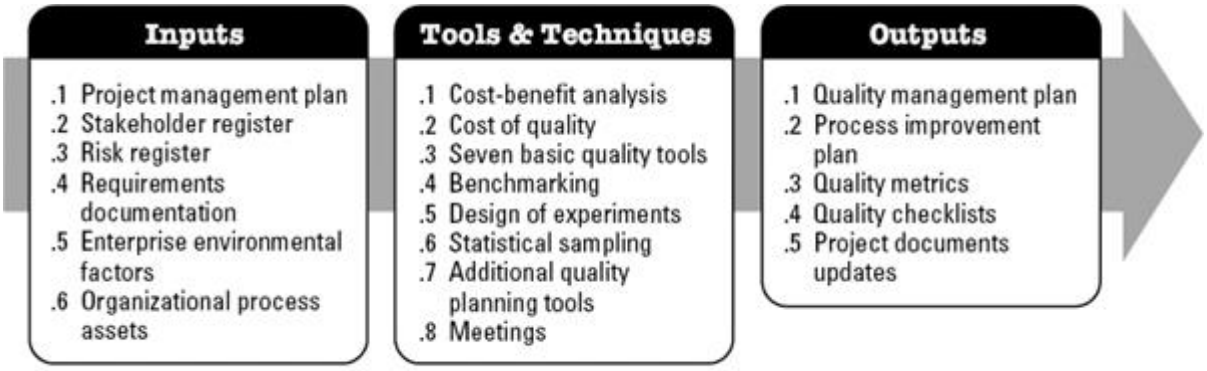


Figure 8-3. Plan Quality Management Inputs, Tools & Techniques, and Outputs

Based on the Figure 8-3, the output of this process contain

Quality Management Plan

REVISIONS

REVISION	DESCRIPTION OF CHANGE	AUTHOR	EFFECTIVE DATE
v1	Initial document upload to PCC intranet site	PCC Team	09/28/17

Table 19. Quality Management Plan.

The table above is one of example which is show the quality management that have some process change.

Process Improvement Plan

The process improvement plan is a component of the Project Management Plan. The purpose of the process improvement plan is to document how the project team will analyze various processes, determine where improvements can be made, and implement improvement measures. (Reference: goo.gl/4pQuQm). With the respect to PCC training management system, the process of data collection and coding are shown.

Process Metric

Process metrics and control limits will be used, in conjunction with process configuration, to guide the process improvement efforts for data collection and coding process in PCC system. These 2 tales below show the process metric of data collection and

Data Collection:

Metric	Acceptable Mean Value	Upper Control Limit	Lower Control Limit
Book collection	700 books	1000 books	500 books
Video Collection	800 videos	1000 videos	500 videos

Targets for Improved Performance

Metric	Current or Target	Acceptable Mean Value	Upper Control Limit	Lower Control Limit
Book collection	Current	700 books	1000 books	500 books
Video Collection	Current	800 videos	1000 videos	500 videos
Website collection	Target	200 websites	500 website	100 websites
Online Course	Target	50 courses	200 courses	20 courses

Table 20. The Target for Improve performance of Data Collection.

The table 20 show the 2 target which can improve for data collection in PCC system. The next is the quality metric is discussed:

Quality Metric

Introduction:

Quality metrics are used to directly translate customer needs into acceptable performance measures in both products and processes. Project managers must be able to assess the progress, efficiency, and performance of their projects and metrics are the means which allow project managers to do this. However, it is important to note that metrics must be established in an effort to directly improve the product or processes involved in the project. They must be attributable to an established goal, threshold, or customer requirement or else they provide no value.

Metrics:

With the respect to PCC training management system, the requirement for building a PCC training management system need be reviewed and approved by project sponsor which is included:

Metric	Standard	Frequency	Report
Book collection (data)	>=700 books	Per prototype	Monthly Quality Management Review (QMR)
Video collection	>=800 videos	Per prototype	Monthly QMR
Sponsor Satisfaction	8/10 or higher with no individual scor below 7	Per prototype	Monthly QMR
Technology	High technology	Per prototype	Monthly QMR
Website Defect Rate	<1 out of 500	Per production of 500 totals	As achieved

Table 21. The Quality Metric of PCC system.

Quality Checklist

With the respect to PCC training system the checklist of quality should be focused on:

Quality Checklist					
Project: PCC training management system.					Date:15/12/2017
	Verfification				
Quality Item	**Yes**	**No**	**N/A**	**Date**	**Comments**
Does the project have an approved quality management plan?	x			xx-xx-xx	
Has the quality management plan been reviewed by all stakeholders?	x			xx-xx-xx	
Do all stakeholders have access to the quality management plan?			x	xx-xx-xx	
Is the quality management plan consistent with the rest of the overall project plan?	x			xx-xx-xx	
Have product quality metrics been established, reviewed, and agreed upon?	x			xx-xx-xx	

Have process quality metrics been established, reviewed, and agreed upon?			x	xx-xx-xx	
Do all metrics support a quality standard which is acceptable to the customer?			x	xx-xx-xx	
Do all metrics have agreed upon collection mechanisms?			x	xx-xx-xx	
Do all metrics have an agreed upon collection frequency?	x			xx-xx-xx	
Have quality metrics review meetings been scheduled throughout the project's duration?			x	xx-xx-xx	
Are all metrics clear, measurable, controllable, and reportable?			x	xx-xx-xx	
Is the project team familiar with the project's quality review process?			x	xx-xx-xx	
Does the project have an appropriate number of resources assigned for quality assurance and control?	x			xx-xx-xx	
Has the project team established a repository for all quality documentation?	x			xx-xx-xx	
Do all team members have access to the quality documentation repository?	x			xx-xx-xx	
Have all appropriate team members been notified of their required participation in quality reviews?			x	xx-xx-xx	
Have quality responsibilities been assigned and documented and the applicable personnel notified?			x	xx-xx-xx	
Has a project quality manager been assigned?	x			xx-xx-xx	
Is the project sponsor aware of his/her responsibilities relating to quality acceptance?			x	xx-xx-xx	
Is the customer aware of his/her responsibilities relating to quality acceptance?			x	xx-xx-xx	

Table 22. The Checklist of Quality for PCC System.

4. 8.2 Performance Quality Assurance

With the respect to textbook ITPM by Kathy, this process is in the phase of executing. The output of this process is included: change request, Project management plan updates, project document updates and organizational process asset updates. Back to PCC training management

system, every phase just assumption. Thus, in this case I am as a project manager, I declare these 2 metric above is the performance quality assurance. The table below provide the key quality assurance metrics for the PCC project.

Process Action	Acceptable Process Standards	Process Phase	Assessment Interval
Data collection	>=700 ITPM books source >=800 Video online resources >=200 website resources	Stranding	Daily or per run
Coding (web technology)	-Responsive Technology - PHP framework	Stranding	Daily or per run

Table 23. The Quality assurance of PCC System.

For another files such as: change request, Project management plan updates, project document updates and organizational process asset updates, they are all deepen on the real work for some tasks that update will be written down.

5. **8.3 Control Quality**

For quality control process was consider in monitoring and controlling phase. The key benefits of this process include: (1) identifying the causes of poor process or product quality and recommending and/or taking action to eliminate them; and (2) validating that project deliverables and work meet the requirements specified by key stakeholders necessary for final acceptance. The inputs, tools and techniques, and outputs of this process are depicted in Figure 8-11.

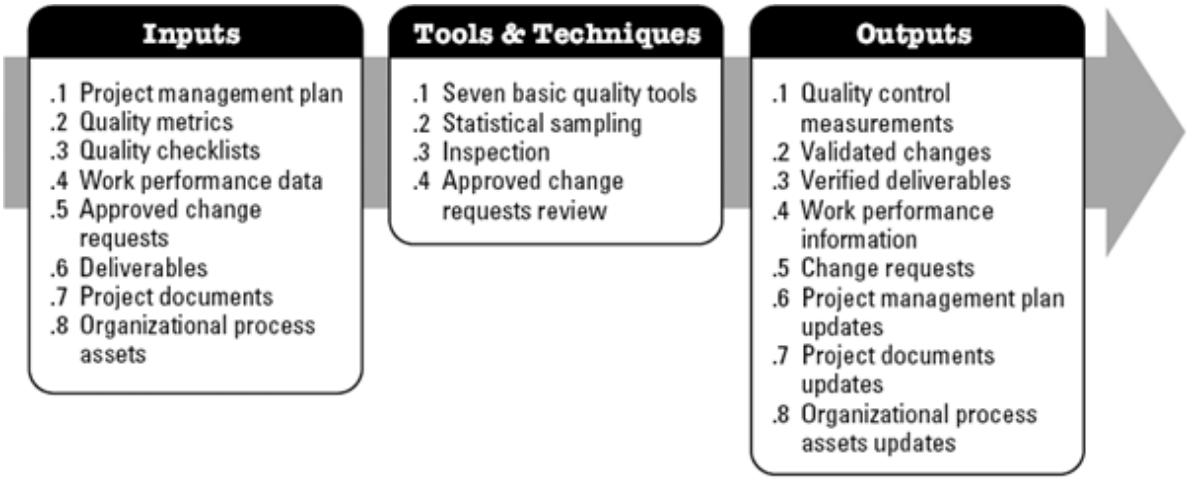


Figure 8-11. Control Quality: Inputs, Tools & Techniques, and Outputs

According to figure 8-11 the technique for apply in this quality control, we focus on seven basic quality tool such as: Cause-and-effect diagram (also known as the "fishbone" or Ishikawa diagram), Check sheet, Control chart, Histogram, Pareto chart, Scatter diagram, and Stratification (alternately, flow chart or run chart). With the respect to PCC project, I will show one example of cause-and-effect diagram of PCC system.

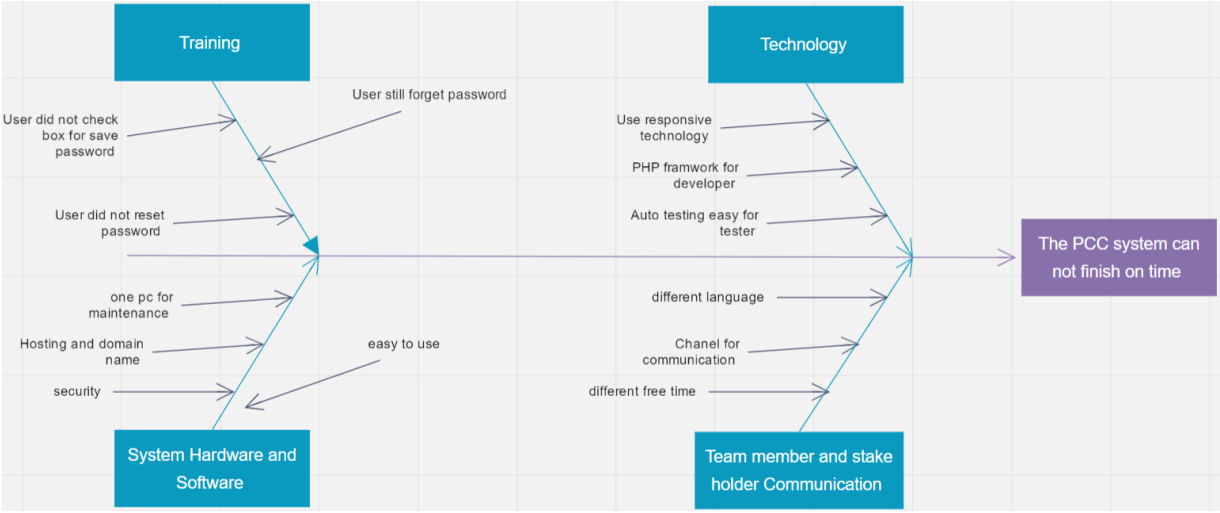


Figure 8-11.1.The cause and effect of sending some tasks late in PCC project.

Moreover, based on ITPM textbook which is use as the main textbook in this course have declare the cause-and-effect diagram of user problem that would be reasonable happen in PCC project too. The figure below show the cause-and-effect of user cannot get in to PCC system.

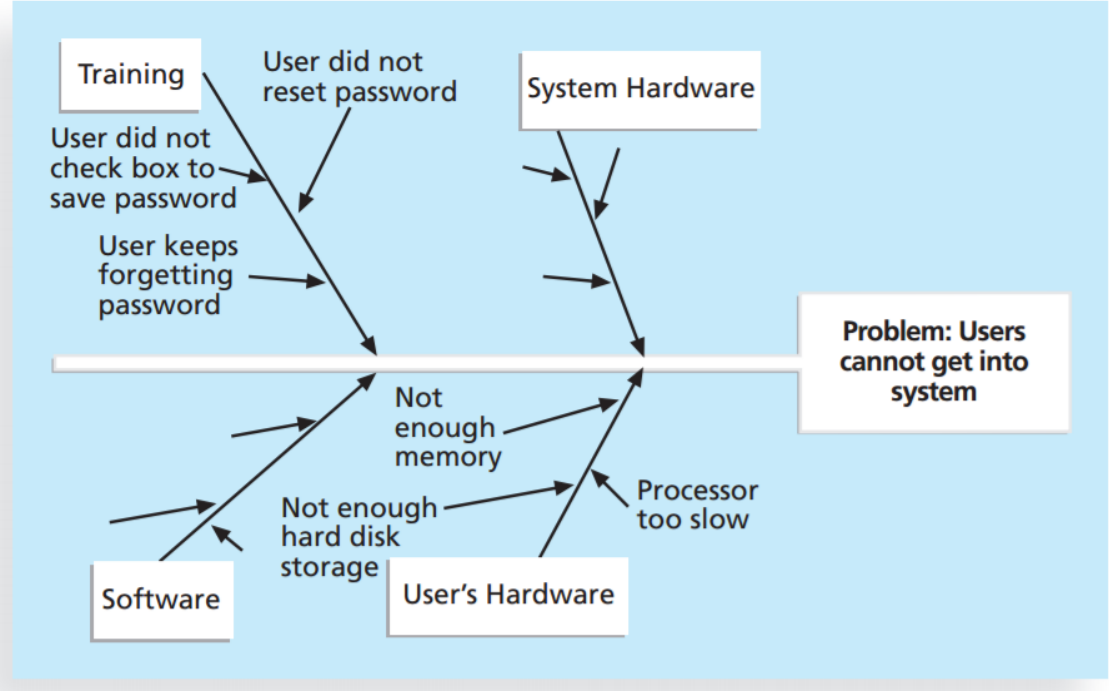


Figure 8-11.2.The cause and effect of user cannot get into PCC system.

For the output of this control quality process has: Quality control measurements, Validated changes, Validate deliverables, Organizational process asset updates, Change requests, Project management plan updates, project document updates and organizational process asset updates.

Quality control measurements

All PCC Project processes must be measured and fall within the established standards and tolerances. The below logs will be used by the project and quality teams in conducting these measurements and will be maintained for use as supporting documentation for the project's acceptance.

Quality Assurance Log

Trial #	Date	Process Measured	Required Value	Actual Measured	Acceptable? (Y/N)	Recommendation	Date Resolved

Table 23 The Sample form of Quality Control Measurement for PCC project.

For the rest of document which is included: , **Validated changes, Validate deliverables, Organizational process asset updates, Change requests, Project management plan updates, project document updates and organizational process asset updates** refer to the any update of each file that already done in the previous processes.

6. 10. Project Communication Management:

Project Communications Management includes the processes that are required to ensure timely and appropriate planning, collection, creation, distribution, storage, retrieval, management, control, monitoring, and the ultimate disposition of project information. With the respect to PCC project the communication is refer to the way of team member communicate to each other such as communication channel, call for meeting and so on. Based on final exam requirement, the PCC training management system will be focus on three main parts of project communication management which is included: 10.1 Plan Communication Management, 10.2 Manage Communication and 10.3 Control Communication. These 3 process will be discussed more in the next topic. The figure 10-1.1 is shown the 3 processes which is contained in project communication management.

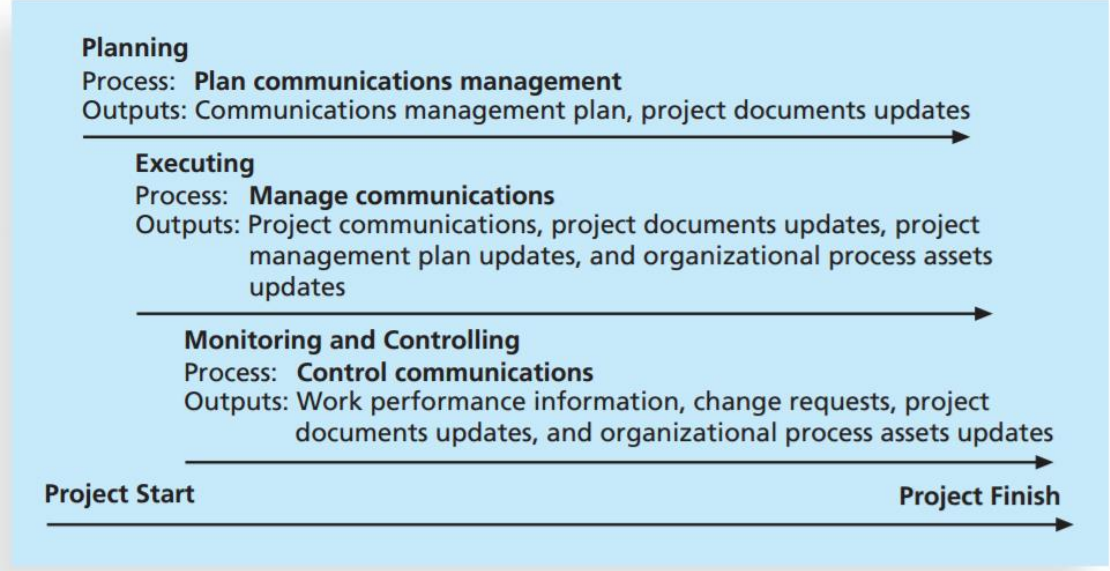


Figure 10-1.1The processes of project communication management.

10.1 Plan Communication Management

According to safaribooksonline.com, the Plan Communications Management refer to the process of developing an appropriate approach and plan for project communications based on stakeholder's information needs and requirements, and available organizational assets. The key benefit of this process is that it identifies and documents the approach to communicate most effectively and efficiently with stakeholders. The input, technique and output are shown in the figure 10-2 below

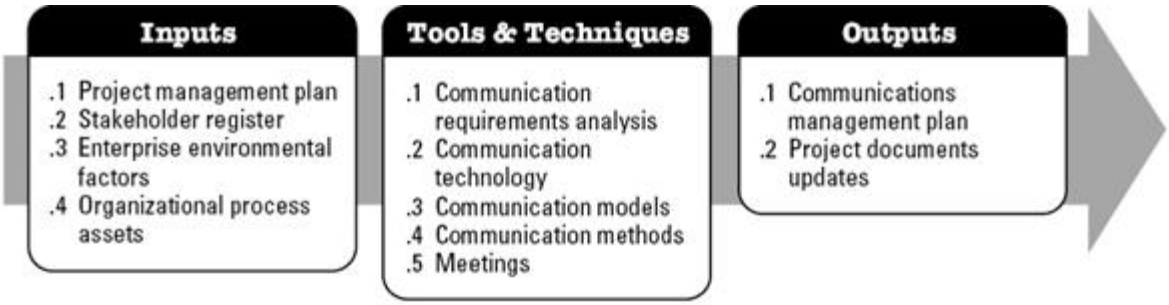


Figure 10-2. Plan Communications Management: Inputs, Tools & Techniques, and Outputs

As the shown in figure 10-2 the output of this process has 1. Communication management plan and Project document updates. For the Communication management plan will be shown in the below:

Communication Management Plan

With the respect to NASA, the communication management plan is contain of many document. The below is a sample of communication management plan which is belong to NASA template.

<PCC TRAINING MANAGEMENT SYSTEM>

COMMUNICATIONS MANAGEMENT PLAN

Prepared by:

<Davy Sorn>	18/10/2017
<Business Analyze>	Date

Approved by:

< Sophal Chan>	30/10/2017
<Project Manager>	Date

Revision History

Version	*Date*	*Release Notes / Version Description*
1	18/10/2017	The New version of Communication Management plan

Table of Contents

Based on the table content of plan communication management, I will talk in brief for each topic due to time limit of final exam which based on the real of PCC training management system.

1. Document Summary
   1.1 Purpose
   The purpose of PCC project is to:
   - Identifies all internal and external project stakeholders and characterizes the communication needs of each.
   - Defines the project's structure and methods of information collection, screening, formatting, and distribution.
   - Defines, and creates a mapping between, all project communicators, audiences, messages (or methods), communication channels (or means), message timing (frequency), and feedback mechanisms.

   1.2 Scope
   This plan includes the following elements:
   - Project Stakeholders
   - Communication Plan
   - Communication Calendar
   - Communication Formats
   - Communication Principles
2. Communication Management Approach
   - Help manage expectations regarding the project.
   - Ensure methods used for communication will be most effective.
   - Assure appropriate levels of communication with internal and external project stakeholders.
   - Provide relevant, accurate, consistent information at all times.
   - Generate and sustain enthusiasm and support for the project.

   2.1 Communication and Feedback Channel
   With the real work in PCC project, the communication and feedback channel is divided into 3 channel such as:

   <u>Face-to-Face</u> (primary mechanism for communication)
   - Meetings
     - Formal - with critical stakeholders
     - Informal - with team members and other stakeholders
   - Presentations/Briefings
   - Workshops
   - Brown Bag Sessions
   - One-on-one Discussions

   <u>Paper-Based</u>
   - Newsletters
   - Internal Memos
   - Reports and Status Documents
   - Project Schedules, Issues Lists and Risks Lists
   - Project Planning and Control Documents
   - Information Displays (public venues)
   - Feedback Forms/Questionnaires

Technology-Based

- E-mail
- Wikis
- Web Pages
- Line

2.2 Communication Tool

This section identifies and defines the high-level tools that will be used in exercising the communication and feedback channels for PCC project.

- Mailing Lists
- Self Service Web Sites
- Tours and Demonstrations
- Public Forums
- Media Releases
- Advertisements and Postings
- Liaison Committee? (representatives of larger groups)

2.3 Element of Communication

Mandatory - These types of communication are required. This information is "pushed" (sent directly) to recipients.

- Team status meetings
- Steering committee meetings
- Visits, conference calls and videoconferences with remote stakeholders
- Required reports to stakeholders
- Required financial reporting such as budget status and EVM metrics.

2.4 Formal Project communication Matrix

The formal project communication matrix is basically a visual representation of the distribution structure for any formal project communications.

2.5 Feedback and Measuring Effectiveness

Feedback is key to ensuring the ongoing effectiveness of PCC project communication, the feedback process will focus on answering questions that will help gauge the impact. For example:

- Do people understand the societal benefits of the project?
- Do people understand what the project will deliver and when?
- Do people understand the current status and progress of the project, and how that relates to the end objectives?
- Do people understand the issues of the project, and how exactly the project is addressing them?
- Do people feel they are involved in what is happening and have a chance to voice their opinions?
- Do people feel their questions have been taken seriously, and answered?
- Do people believe in the project and feel ownership of it?

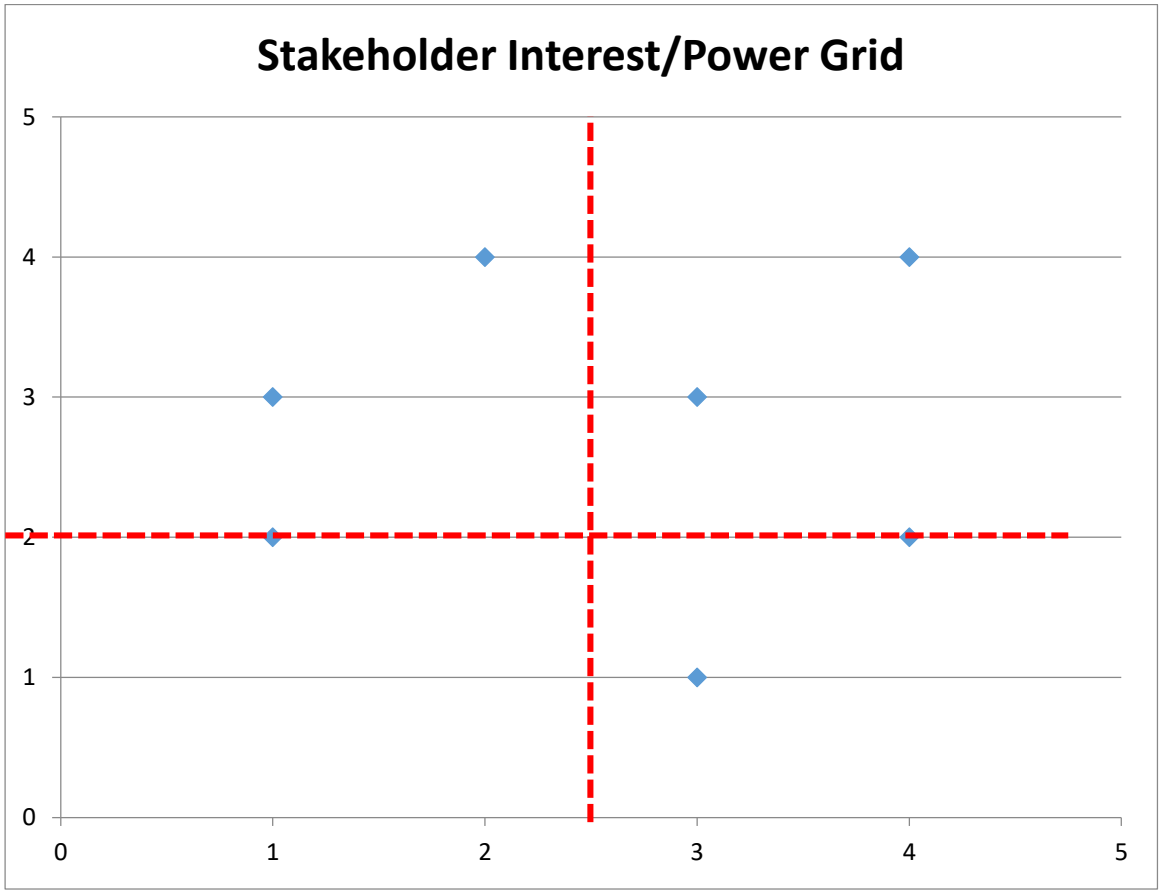
3. Stakeholder Identification and Analysis

Effective communication is the PCC project's primary tool for promoting cooperation, participation, coordination and understanding between all stakeholders. PCC has 2 primary stakeholder groups and has specific communications goals for each.

Group	Goals	Objectives
Management, staff, customers, media, community, finance		
Project leader Project team members Upper management Project customer Resource Managers Line Managers Product user group		

Table 24. Project Stakeholder group

3.1 Stakeholder Assessment



Stakeholder	Type	Class	Peak Interest	Preferred Method	Power	Interest	Strategy
Sponsor	Internal	Positive	Initiating	Phone Email	High	Low	Keep Satisfied

				Presentation In-Person			
Steering Committee	Internal	Positive	Initiating		High	Low	Keep Satisfied
Team Members	Internal	Positive	Execution		Low	High	Keep Informed
Customers	External	Positive	Execution		High	Low	Keep Satisfied

In this case I will go through to point 7. Project Communication Matrix due to another point already point it out in the previous task.

7 Project Communication Matrix

The communication requirements for the Project are listed in the following matrix. As the project proceeds, it may be necessary to modify the communication requirements. Any modifications to the communication matrix must be approved by the Project Sponsor.

Communication Type	Description	Frequency	Format	Participants/ Distribution	Deliverable	Owner
Weekly Status Report	E mail summary of project status	Weekly	E mail	Project Sponsor, Team and Stakeholders	Status Report	Project Manager
Weekly Project Team Meeting	Meeting to review action register and status	Weekly	In Person	Project Team	Updated Action Register	Project Manager
Monthly Project Review	Present metrics and status to team and sponsor	Monthly	In Person	Project Sponsor, Team, and Stakeholders	Status and Metric Presentation	Project Manager
Weekly Construction Status	Report outlining weekly progress and issues	Weekly	E Mail	Project Team	Construction Status Update	Contractor Team Lead
Project Gate Reviews	Present closeout of project phases and kickoff next phase	As Needed	In Person	Project Sponsor, Team and Stakeholders	Phase completion report and phase kickoff	Project Manager
Technical Design Review	Review of any technical designs or work associated with the project	As Needed	In Person	Project Team	Technical Design Package	Project Manager

Table 25. Project Communication Matrix

8 Communication Principle

PCC Communication Principles	
Principle	**Reason**
Credibility	Without a credible communication approach or credible communicators, individuals will simply not believe in the end goal.
To involve not inform	Promotes ownership of the program, feeling a necessary part of the program

Communicators whom people trust/respect	If the staff does not trust or respect the communicators, the messages 'fall on deaf ears'.
Visible management support	Active management commitment gives credibility to communication. Must be seen to demonstrate support.
Face-to-face communication	Audience is involved, communication is two-way and provides a feedback mechanism.
To avoid information 'overload'	Too much information leads to confusion and irritation. Accurate and timely information is key.
Consistent messages	Inconsistency loses credibility in the program. Without consistency, audiences are confused and frustrated about what to expect.
To repeat messages and vary mechanisms	The more ways a message can be communicated, the more likely it is to be internalized. Using different mechanisms ensures repetition without individuals 'switching off'.
To create demand: Encouraging team to pull for information, rather than management pushing it at them.	Ensures buy-in to the change.
Tailor communication to audience needs: Give information which audience wants, not what you want to tell	Makes information 'real' to the audience. The audience is more likely to listen if the information is pertinent to their current frame of reference.
Central co-ordination	Ensures consistent approach.
Manage expectations	Encourages audience to believe in what you to tell them. Preparing shows you understand their needs.
Listen and act on feedback	Encourages support in the approach by being responsive to the needs of the audience. Ensure approach meets changing audience needs.

Table 26. PCC Communication Principle

8.1 Meeting

Due to PCC meeting, will do the stand-up meeting every workday in the morning with 5-10 minutes for each to tell about the problem that each member has met.

8.2 Email

For Email in PCC use when call for meeting in the formal one, especially call for meeting with project sponsor.

9 How to scale

Most projects will require some form of both internal and external communication on a regular basis to sustain momentum on the project and to fulfill organizational reporting requirements. For small projects that have only a handful of stakeholders who are intimately familiar with all project details, it may be sufficient to provide a standard status report to all stakeholders on a regular basis. Be sure to include an open invitation for feedback on even such small projects.

10 Communication Planning Checklist

With the respect to PCC project, the communication planning checklists are identified in the table below:

Have all internal and external stakeholder information needs been assessed?	☐
Are their long and short term information needs identified?	☐
Have responsibilities for communication been assigned, including who must approve the various types of communications?	☐
Are processes in place for dealing with ad hoc communication needs?	☐

Are feedback mechanisms identified and planned for?	☐
Have communication tasks been inserted into the project schedule?	☐
Has the plan been communicated to the Project Team?	☐

Table 27. PCC Communication Planning Checklist.

Now I finished all the work for process 10.1 plan communication management. The next process is 10.2 Manage Communication.

7. **10.2 Manage Communication**
   In PCC project, this process main to manage all communication which is included stakeholder communication and team member communication. With the respect to safaribooksonline.com, Manage Communications is the process of creating, collecting, distributing, storing, retrieving, and the ultimate disposition of project information in accordance to the communications management plan. The key benefit of this process is that it enables an efficient and effective communications flow between project stakeholders. The input, techniques and output of this process are shown in the figure below:

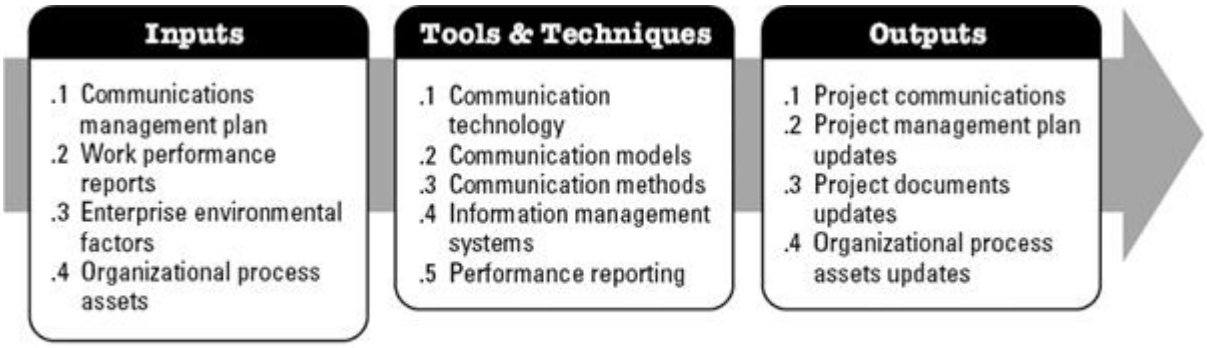


Figure 10-5. Manage Communications: Inputs, Tools & Techniques, and Outputs

As shown in the figure 10-5, all the output document is directly to the output of process 10.1 plan communication management (Project Communication) and the rest such as: Project Management Plan Updates, Project Document Update, and Organization Process Assets Updates will be update from the previous document. After finished this process, the next process which will be talk in the next topic is 10.3 Control Communication.

8. **Control Communication**
   The difference between manage communication and control communication is manage communication is the process of mange all communication in the executing phase while Control Communications is the process of monitoring and controlling communications throughout the entire project life cycle to ensure the information needs of the project stakeholders are met. One more thing, the key benefit of this process is that it ensures an optimal information flow among all communication participants, at any moment in time. With the reference to safaribooksonline.com, the input, techniques and output will be shown **in the figure below:**

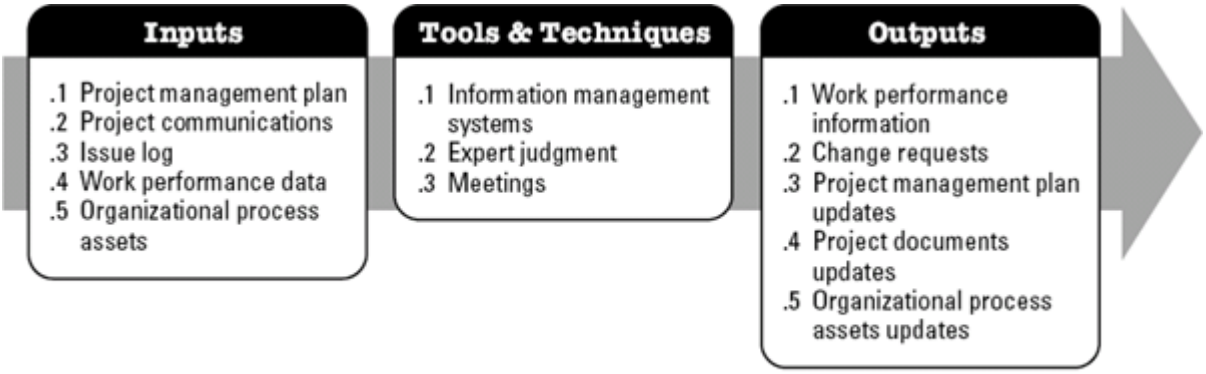


Figure 10-7. Control Communications: Inputs, Tools & Techniques, and Outputs

In figure 10-7, the output of process 10.3 control management have work performance information, change request, project management plan updates, project document updates and organizational process assets updates. As per the PMBOK Guide, the work performance information is "the performance data collected from various controlling processes, analyzed in context and integrated based on relationships across areas; e.g. status of deliverables, and forecasted estimates to complete, etc."

With the respect to PCC project, the work performance information will be include:

- Scope: the PCC project is a website for providing the learning short course which is contained: eBooks, online courses, videos and etc.
- Time: one year for complete PCC project
- Cost: the budget of PCC project need to spend around 1.2 million baht.
- Quality: In PCC project the quality base on the website performance which include: UI, easy to use, security and so on.
- Communication: In PCC project, the communication refer to the communication between team member to team member, PM to team member and stakeholder to team member or PM.
- Risk: in PCC project there will be both positive risk and negative risk. For identify risk will be done it in the point 3 of final exam (for another processes).

Moreover, with the respect to PMBOK guide, the work performance information include:

- Input to Monitor and Control Project Work
- Output of the Validate Scope
- Output of the Control Scope
- Output of the Control Schedule
- Output of the Control Costs
- Output of the Control Quality
- Output of the Control Communications
- Output of the Control Risks
- Output of the Control Procurements
- Output of the Control Stakeholder Engagement

The process of Control Communication has been show above, in the next final process of the point 2 in final exam is 4.6 Close the project or phase.

9. 4.6 Close the project or phase

This is the last process in the closing the project, in this process if refer to PCC project, there will be a product is a website of training management system. With the respect to safaribooksonline.com, Close Project or Phase is the process of finalizing all activities across all of the Project Management Process Groups to formally complete the project or phase. The key benefit of this process is that it provides lessons learned, the formal ending of project work, and the release of organization resources to pursue new endeavors. The inputs, tools and techniques, and outputs of this process are depicted in figure below:

Figure 4-12. Close Project or Phase: Inputs, Tools & Techniques, and Outputs

Based on the figure 4-12, the input of process 4.6 have project management plan, accepted deliverable and organizational process asset by applying in techniques of expert judgment, analytical techniques and meetings will give the two main result of output are final product and organizational process assets update. With the respect to PCC project, the final product will be a website of PCC training management System that give the online course of MIS.

Now I have finished all the processes of point 2 in the final exam, turn to the point 3 of final exam is to find another processes that not include in point 1 & point 2 and also necessary in the PCC project.

III. The processes that is important to PCC project

1. The process that necessary for PCC project which is not present in point 1 &2.

Process No.	Process name	What should we do for this project?	What should appear in the output?
7.4	Control Cost	This process can make us to know how to control the cost.	1.Work performance information 2. Cost forecasts 3. Change request 4. Project document updates 5. Organizational process assets updates
6.7	Control schedule	We can use this process to control our project schedule.	1.Work performance information 2. Schedule forecast 3. Change request

			4. Project management plan updates 5.Project document updates 5. Organizational process assets updates
9.1	Plan HR management	Within this process, the PM can control HR with effectively.	1.Human Resource Plan
9.4	Manage project team	Within this process the PM can manage the team project easily and effectively.	1.Change requests 2. Project management plan updates 3. Project document updates 4. Enterprise environmental factor
11.1	Plan risk management	PCC project still have risk, so this process is very import for PCC project to manage the risk that will be happen in the future both positive and negative risk.	1.Risk management plan
11.2	Identify risks	With this project, PCC project can know what are the positive and negative risk? Then I can do the risk register for each risks.	1.Risk register
11.6	Control risk	The control risk for PCC project refer to the control it with the effectively.	1.Work performance information 2. Change requests 3. Project management plan update 4. Project document updates 5. Organizational process assets updates
13.2	Plan stakeholder management	The planning of stakeholder management is very import after I did the stakeholder analysis, it can give the team member to deal with many kind of stakeholder personality.	1.Stakeholder management plan 2. Project document updates

2. **The process which is not necessary for PCC project.**

There are 10 processes that I think it is not necessary to PCC project. For these 10 processes is include:

9.2 Acquire project team

9.3 Develop project team

For the process 9.2 & 9.3 are not necessary to PCC project because our team already make a sign off for each task, role and responsibility.

11.3 Perform quality risk analysis
11.4 Perform quantitative risk analysis
For risk analysis, especially quality and quantitative analysis are not necessary to PCC project because PCC project is just a medium that no need to classify quality and quantitative risk, I think it need only identify risk is enough.

12.1 Plan procurement management
12.2 Conduct procurement
12.3 Control procurement
12.4 Control procurement
For procurement management process which is included: 12.1 Plan procurement management, 12.2 Conduct procurement, 12.3 Control procurement, and 12.4 Control procurement are not necessary in PCC project because in PCC project we can use our resources to complete this project such as: Human resource, hardware resource and so on.

13.3 Manage stakeholder engagement
13.4 Control stakeholder engagement
Because of stakeholder in PCC project just focus mainly on project sponsor, so the process 13.3 & 13.4 are not necessary in this case.

End of Final Exam

Reference:
Special thanks to: https://www.safaribooksonline.com