INFO6007
Project Management in IT

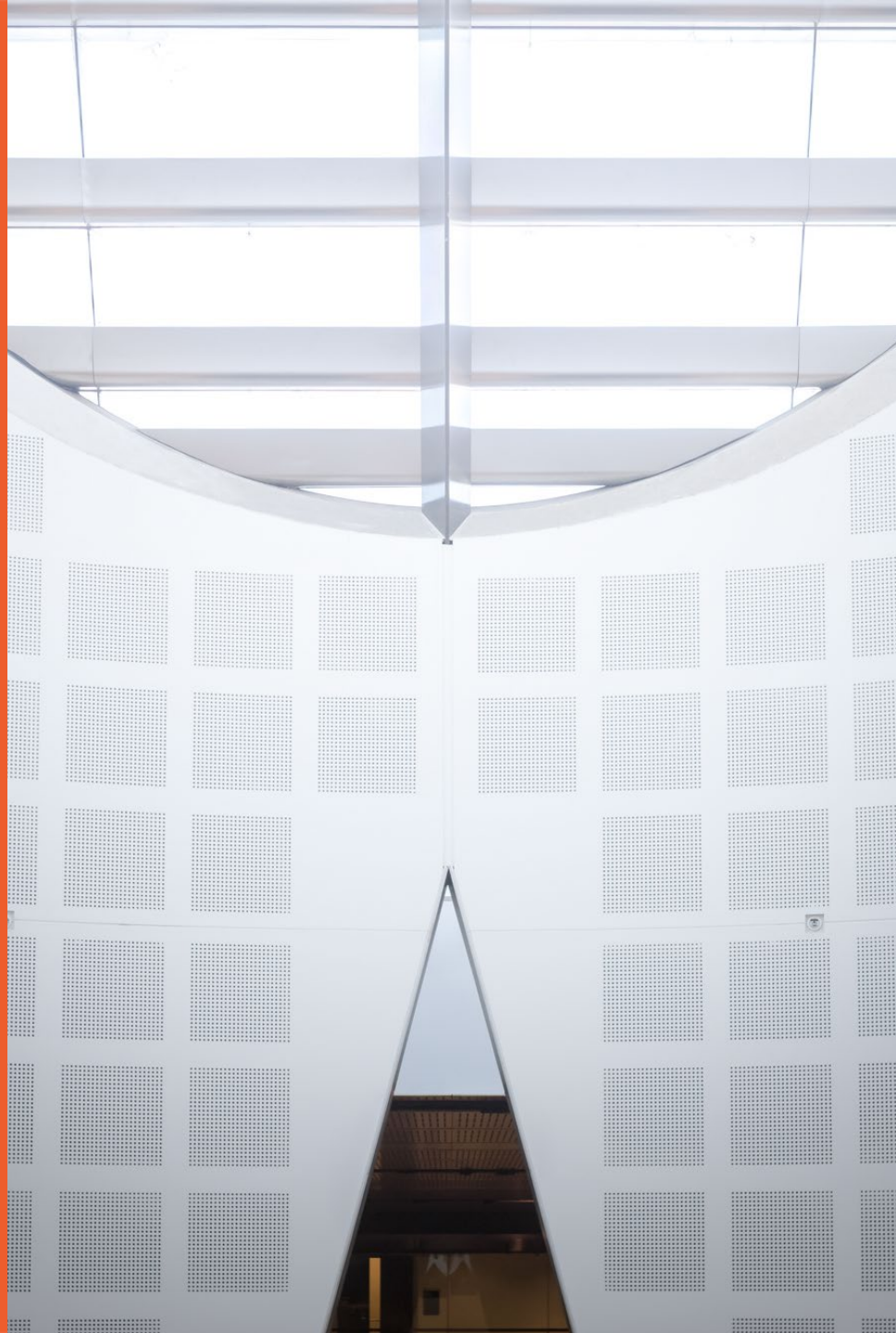
Lecture 1
Introduction to IT Project Management: Part-A

Semester 2, 2020

Dr Rabiul Hasan

THE UNIVERSITY OF SYDNEY

Source:
Schwalbe, K, Information Technology Project Management (9th Edition). Cengage Learning, 2018



Welcome !

Let's introduce ourselves !

Dr Rabiul Hasan

Teacher of the Year 2019

WINNER

For outstanding knowledge, commitment and care.

5 November 2019

M. Rabiul Hasan

SUPRA Sydney University Postgraduate Representative Association

THE UNIVERSITY OF SYDNEY

Website

https://www.sydney.edu.au/engineering/about/our-people/academic-staff/rabiul-hasan.html

THE UNIVERSITY OF SYDNEY

To introduce yourself,

please tell us your **first name** in the link below

https://answergarden.ch/1362016

INFO6007: Day, Time, & Zoom Link

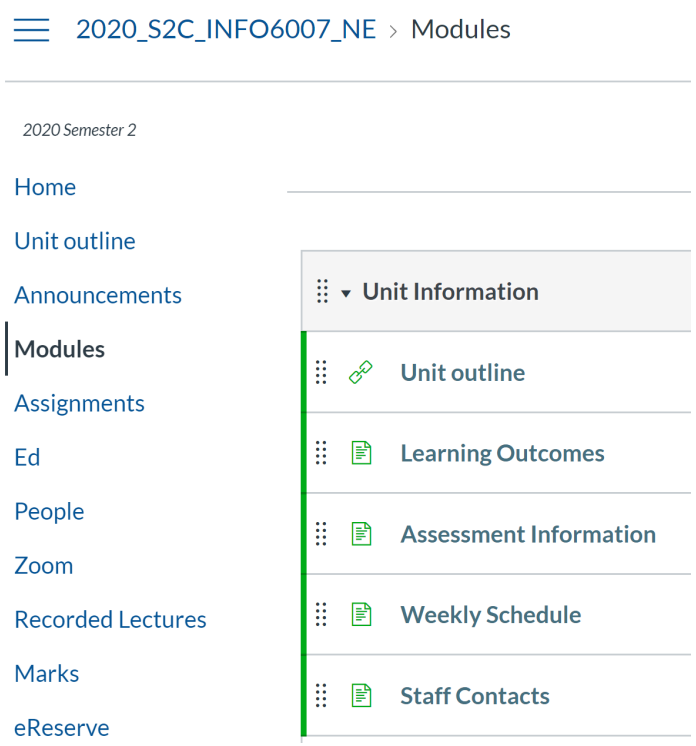
- **Lectures & Tutorials**: Wednesday 18:00-21:00

  - Lecture link: https://uni-sydney.zoom.us/j/96246057117

  - Tutorial:
    - The access links will be confirmed in week 2
    - Groups will be allocated to specific tutorial session
    - Tutorial will start in week 2, after completing the lecture every week, approximately at 8 pm
    - Task involves tutorial practices (if any) and group project

Unit Information and Resources

- Let's explore Canvas site
  - Login using Unikey and password
  - Link to Unit of Study Outline
  - https://www.sydney.edu.au/units/INFO6007/2020-S2C-NE-CC
  - Assessment Guideline
  - Lecture Slides
  - Tutorial Practices
  - Real World Project Cases



Books

- **Text Book**

  - Schwalbe, K, Information Technology Project Management (9th Edition). Cengage Learning, 2018.

- **Reference Books**

  1) Schwalbe, K., An Introduction to Project Management (4th). 2012.

  2) Jeffrey K. Pinto, Project Management, Achieving Competitive Advantage Global Edition (Third Edition). Pearson, 2012.

  3) Erik W. Larson, Clifford F. Gray, Project management : the managerial process (5th). New York, McGraw-Hill Irwin, 2011.

  - These and other relevant books can be found in the university library

Assessments

Assessment name	Team-based?	Weight	Due	Outcomes Assessed
Knowledge Test	No	20%	Week 7	2, 3, 4
Group Project	Yes	25%	Week 9	1, 2, 3, 4, 5
Presentation	Yes	5%	Week 11	1, 3, 4, 5
Final Exam	No	50%	Formal exam period	2, 3, 4

- Assessment guideline is available in Canvas, explore it, any Q&A?

- School of Computer Science policy: you must get **at least 40%** of the marks available on the exam, in order to pass the unit.

- According to INFO6007 UoS Outline, students **must participate in group assessments** in order to pass the unit.

Assessments

- Let's explore the Assessment Guide provided on Canvas

School of Computer Science
INFO6007 Project Management in IT (Semester 2, 2020)

4. KNOWLEDGE TEST (20%)

There will be a knowledge test conducted for this unit in week 7. It is a Canvas-based online test. The details of the format and coverage will be provided in lectures.

5. GROUP PROJECT (25%)

5.1. TEAM STRUCTURE

Students are expected to form teams of 5-6 students per group for the group assignment by Week 1. All the groups will then be approved on Canvas. Further details will be provided during the first lecture (week 1).

5.5. MARKING CRITERIA

Assessment Element	Sub-Elements	Weight
1. Project Charter	• Project details (Brief background and objectives) • Project deliverables • Project cost (Total cost) • Project time (Total time) • Roles and responsibilities of each student	**/10**
2. Scope	• Project scope statement • Deliverables • Milestones	**/10**
3. Literature Review	• Appropriate literature selection • Identification of knowledge gaps • Analysis and consolidation • Summary of literature review • Citation (appropriate, extensive use)	**/15**
4. Work Breakdown Structure *(3 level)*	• Work Packages/ Activities/Tasks • Provide a brief description of each of the activities	**/15**
5. Project Schedule/Time Modeling	• Detailed schedule (Gantt chart) • Proper sequencing and task Dependencies	**/10**
6. Cost Modeling	• Detailed budget table • Identify cost types and briefly describe them • Direct or indirect project costs • Detailed cost baseline	**/10**

Late Submission of Assessments

If you submit your work/assignment, or any form of assessments after the deadline, and if you have not been granted special consideration or arrangements

- A penalty of **5 %** of the marks will be taken, per day late
- Submissions with 10 days late get **Zero**.

What We Expect From You?

- Attend and participate in scheduled Lectures and Tutorials, and devote an *extra* 6-9 hours per week
  - doing assessments
  - preparing and reviewing for classes
  - revising and integrating the ideas
  - practice and self-assess
- Do not miss class, except for illness, emergencies, etc
- Get help from staff if you feel you are falling behind
  - Notify academics whenever there are difficulties
  - Notify team members honestly and promptly about difficulties
- Check eLearning site at least once a week!
- Check your university email regularly
- Be a team player
- Have a good plan for the course

What Do You Expect From The Teaching Team?

- Click on the following link and write ONE WORD only

https://answergarden.ch/1362197

Communication and Contacts

Utilise https://edstem.org/courses/4816/discussion/

Tutors:

- Ajit Pillai, ajit.pillai@Sydney.edu.au
- Bal Reddy Gillela, l2084@uni.sydney.edu.au
- Mayank Shekhar, mshe6149@uni.sydney.edu.au

Tutorial Coordinator:

Ajit Pillai ajit.pillai@sydney.edu.au

Course Coordinator and Lecturer:

Dr Rabiul Hasan, rabiul.hasan@sydney.edu.au

Lecture 1:
Introduction to Project Management

Where Are We Now ? -- Course map

Week	Topics/Activities
Week 1	Introduction to IT Project Management
	Other: Form Assignment Groups
Week 2	Managing Project Scope
Week 3	Managing Project Time
Week 4	Managing Project Cost
Week 5	Managing Project Quality
Week 6	Managing Project Resources
Week 7	Knowledge Test
Week 8	Project Leadership and Communication Management
Week 9	Managing Project Risk Assessment Due: Group Project
Week 10	Managing Project Procurement
Week 11	Presentation
Week 12	Course Review
Exam Period	Assessment Due: Final Exam

What Will We Do Today ?

- Lecture
  - Attributes of a Project
  - Why Project or Project Management?
  - PM Knowledge Areas

- Class activities
  - Critical Thinking / No Problem Solving Tonight
  - Tools to use: https://padlet.com
    https://answergarden.ch

- Assessment
  - Team formation, think of an IT project
  - Test: ?
  - Assignment: explore group assignment

- Tutorial Updates: starting from week 2
- Announcement (if any): ?

Today's Learning Objectives

- Discuss the attributes of a project, types and examples of IT/IS projects
- Understand why project management is important

- Discuss the role of IT project managers, and important skills required
- Describe Project Management Knowledge Areas

What is a project ?

- What comes to your mind ?

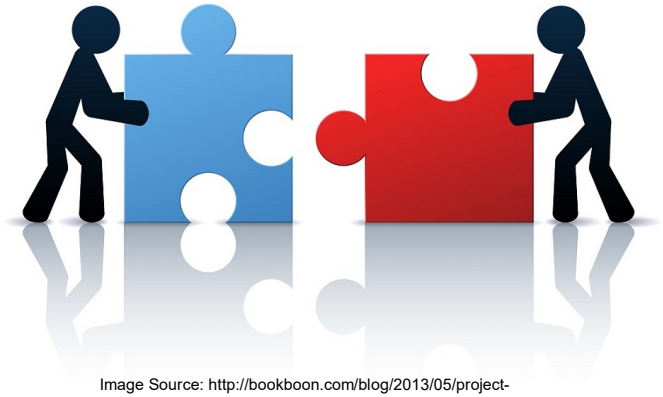


Image Source: http://bookboon.com/blog/2013/05/project-launch-stage-how-to-get-a-project-properly-running/

Image source: https://it.sheridancollege.ca/aboutIT/pmo.html

What is a project ? Cont..

- A **project** is "a temporary endeavor undertaken to create a unique product, service, or result" (PMBOK® Guide, Fifth Edition, 2013).
- Projects have definite start point and end point
- They are governed by scope, cost and time goals
- Project require resources.
- Can be part of programs, portfolios and strategies

- Projects end when their objectives have been reached or the project has been terminated

- Projects can be large or small and take a short or long time to complete

The Context of IT Projects

- IT projects can be very diverse in terms of size, complexity, products produced, application area, and resource requirements

- IT project team members often have diverse backgrounds and skill sets

- IT projects use diverse technologies that change rapidly. Even within one technology area, people must be highly specialized

Examples of IT Projects

- A team of students creates a smartphone application and sells it online
- A company develops a driverless car
- A government group develops a system to track child immunizations
- A global bank acquires other financial institutions and needs to consolidate systems and procedures

Type of IS Projects

- Software development
- Package implementation
- System enhancement
- Systems migration
- Business analysis assignments

Source: Project Management for Information Systems (5th Ed) by James Cadle & Donald Yeates

What is Project Management?

- **Project management** is "the application of knowledge, skills, tools and techniques to project activities to meet project requirements" (PMBOK® Guide, Fourth Edition, 2013)

- **Project management** is a complex team-based activity where various types of technologies are an inherent part of the project management process

Image source: http://www.aussieitgroup.com.au/blog/web-designer-project-management-tools/

What is Project Management? Cont..

- Largely process-driven discipline
- Applicable to all industries and domains of activities
- Several standards to support effective project management
- The primary challenge of project management is to achieve all of the project goals within the given constraints.

Why Project Management ? (Consequence without PM)

- A PricewaterhouseCoopers study found that overall half of all projects fail and
  - only 2.5% of corporations consistently meet their targets for scope, time, and cost goals for all types of project.
- Organizations waste $109 million for every $1 billion spent on projects, according to PMI's Pulse of the Profession® report

Why Project Management ? (Demand for PM)

- Many organizations today have a new or renewed interest in project management

- The Project Management Institute estimates demand for 15.7 million project management jobs from 2010 to 2020,

  - with 6.2 million of those jobs in the United States

Why Project Management ? (Skills and Salary)

- The top skills employers look for in new college graduates are all related to project management:
  - team-work,
  - decision-making,
  - problem-solving,
  - and verbal communications

- In 2019 (the most recent year of PMI's salary survey), the average salary in U.S. dollars for someone in the project management profession was:
  - **Switzerland (US$130,996),**
  - **the United States (US$112,000),**
  - **and Australia (US$108,593),**

whereas the countries with the lowest median salary is India (US$25,959), Nigeria (US$21,498), and Egypt (US$10,159).

https://www.pmi.org/-/media/pmi/documents/public/pdf/learning/salary-survey-10th-edition.pdf

Why IT Project Management ? (Demand)

- Worldwide IT spending was $3.8 trillion in 2014, a 3.2 percent increase from 2013 spending.

- A Standish Group study (CHAOS) found that only 16.2% of IT projects were successful in meeting scope, time, and cost goals; over 31% of IT projects were canceled before completion.

Issues with IT Project Management -- Media Snapshot

- The media have often reported on mismanaged IT projects, including the disastrous launch of the website healthcare.gov in October 2013

- Forbes ran an article on called "Healthcare.gov: Diagnosis: The Government Broke Every Rule of Project Management"

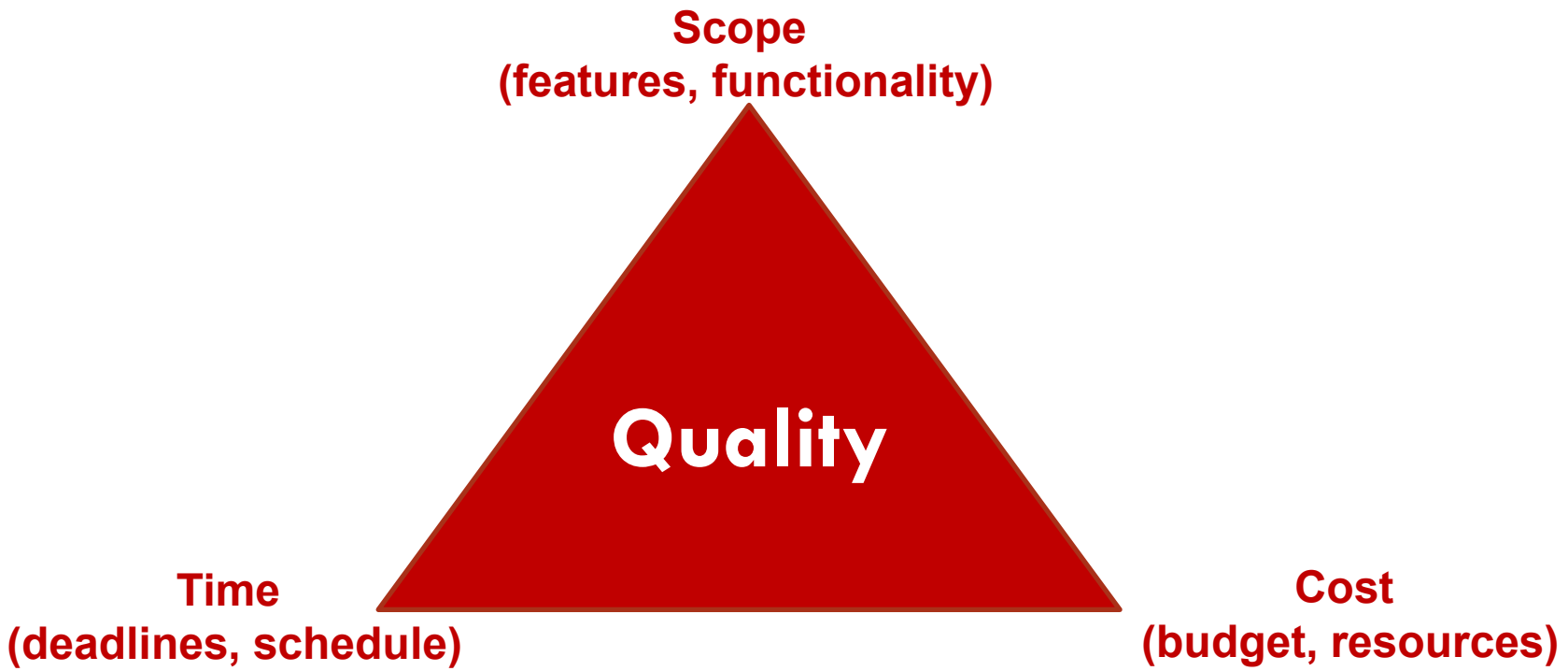
- President Obama formed the "Obama Trauma Team" of star performers from several organizations to help fix the site

Critical Thinking Exercise 1: Advantages of Using Formal Project Management

- What are they?
- Please identify 5 of them and write your answer at the following link
- http://shorturl.at/bdql8

Triple Constraints of Project Management

- Project managers **strive to meet the triple constraints** (project scope, time, and cost goals) which facilitate the entire process to meet the needs and expectations of project stakeholders.



Project Manager vs Program Manager

- **Project managers** work with project sponsors, project team, and other people involved in a project to meet project goals
- **Program**: group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually (PMBOK® Guide, Fifth Edition, 2013)
- **Program managers** oversee programs; often act as bosses for project managers

The Role of a Project Manager

- Job descriptions vary, but most include responsibilities like planning, scheduling, coordinating, and working with people to achieve project goals

- Remember that 97% of successful projects were led by experienced project managers, who can often help influence success factors

Anyone Here Works as a PM? Or Want to Be ?

- Have you ever managed any project?
- What's your strategy of taking this course?
- Where do you see yourself in the future?

Suggested Skills for Project Managers

- The Project Management Body of Knowledge (PMBOK)
- Application area of knowledge, standards, and regulations
- Project environment knowledge
- General management knowledge and skills
- Soft skills or human relations skills

Critical Thinking Exercise 2:
Most Important Skill for Project Managers ?

- Please answer them at AnswerGarden:

  ONE WORD ONLY

  https://answergarden.ch/1362240

Facts About IT Project Manager

- IT Project Manager doesn't do programming, but should understand programming
- IT Project Manager usually become enemy of programmers
- Project Manager see what programmers don't see
- Project Manager should explain "strange" language to client using natural language
- Project Manager should understand what client wants and what programmer can do
- Project Manager should be always available
- Project Manager should convey bad news in good way

Source (texts & image): https://medium.com/skyshidigital/7-facts-about-it-project-manager-3744710f72b8

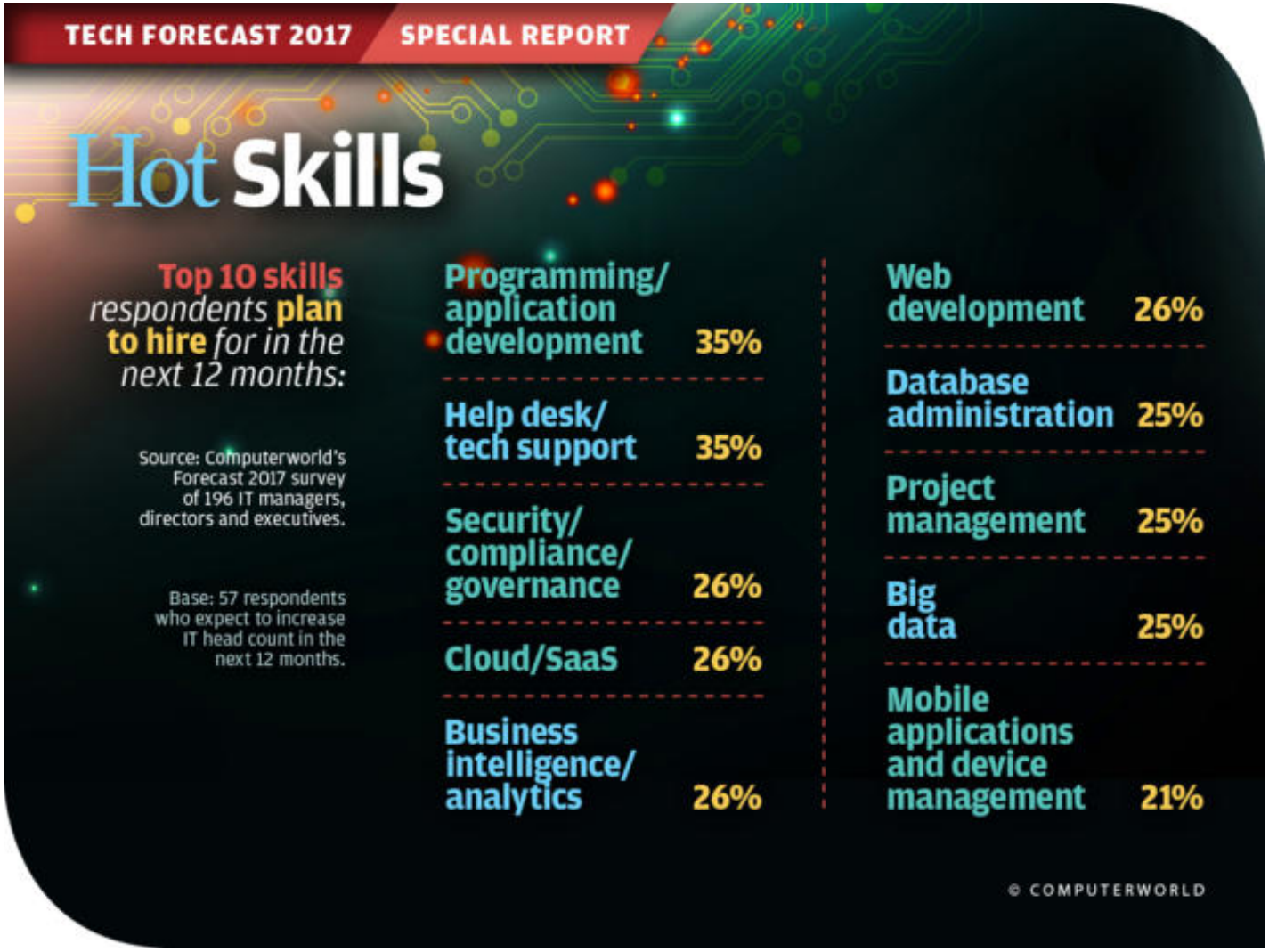
Careers for IT Project Managers

- **In a 2014 survey**, IT executives listed the "ten hottest skills" they planned to hire for in 2015

- Project management was second only to programming and application development

- Even if you choose to stay in a technical role, you still need project management knowledge and skills to help your team and organization

Project Management in 10 Hottest Tech Skills for 2017



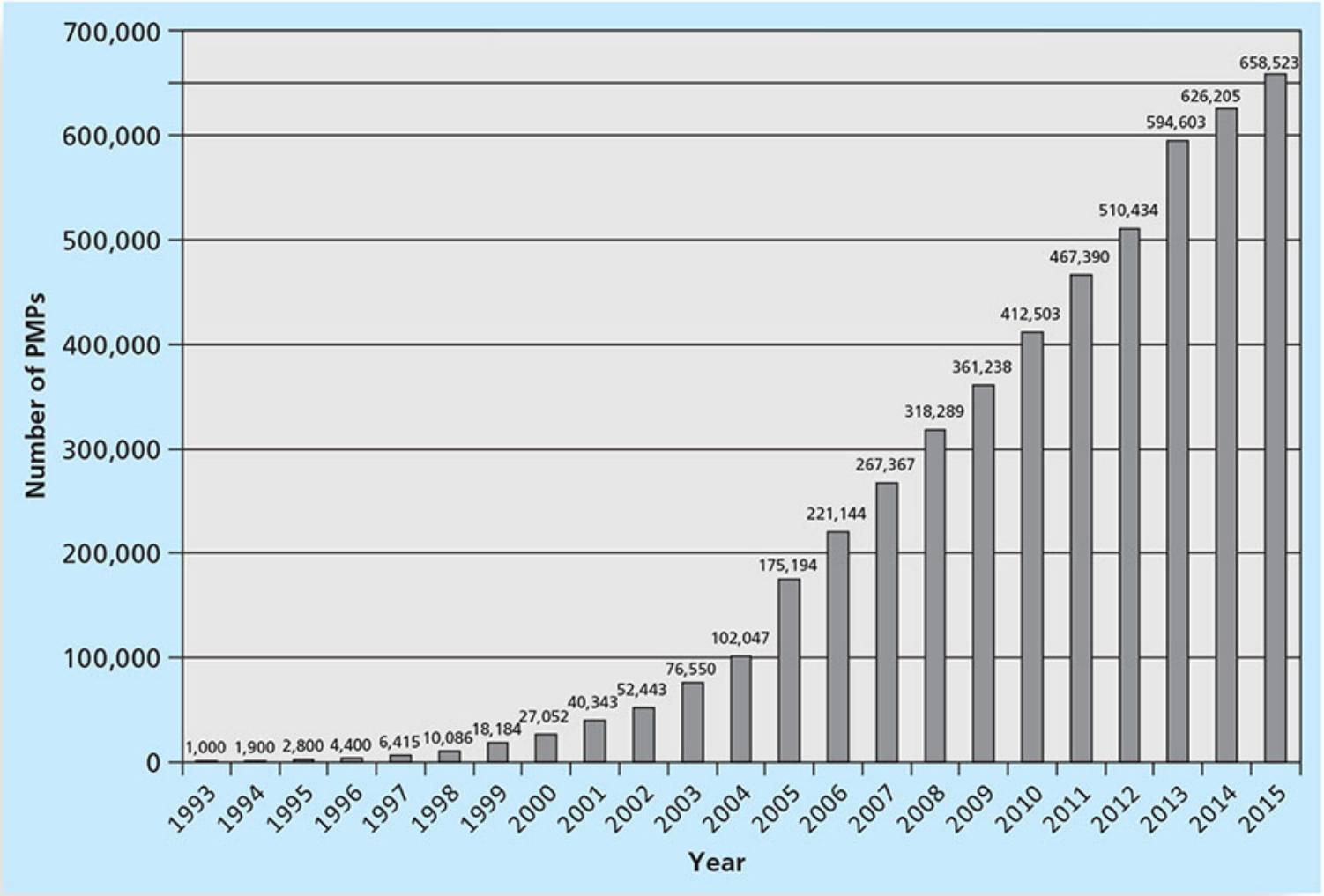
Source: Mary K. Pratt (2016). https://www.computerworld.com/article/3147427/it-skills-training/10-hottest-tech-skills-for-2017.html?page=2

Project Management Certification

- The Project Management Institute (PMI) is an international professional society for project managers founded in 1969

- PMI provides certification:
  - Project Management Professional (**PMP**)
  - Certified Associate in Project Management (**CAPM**)

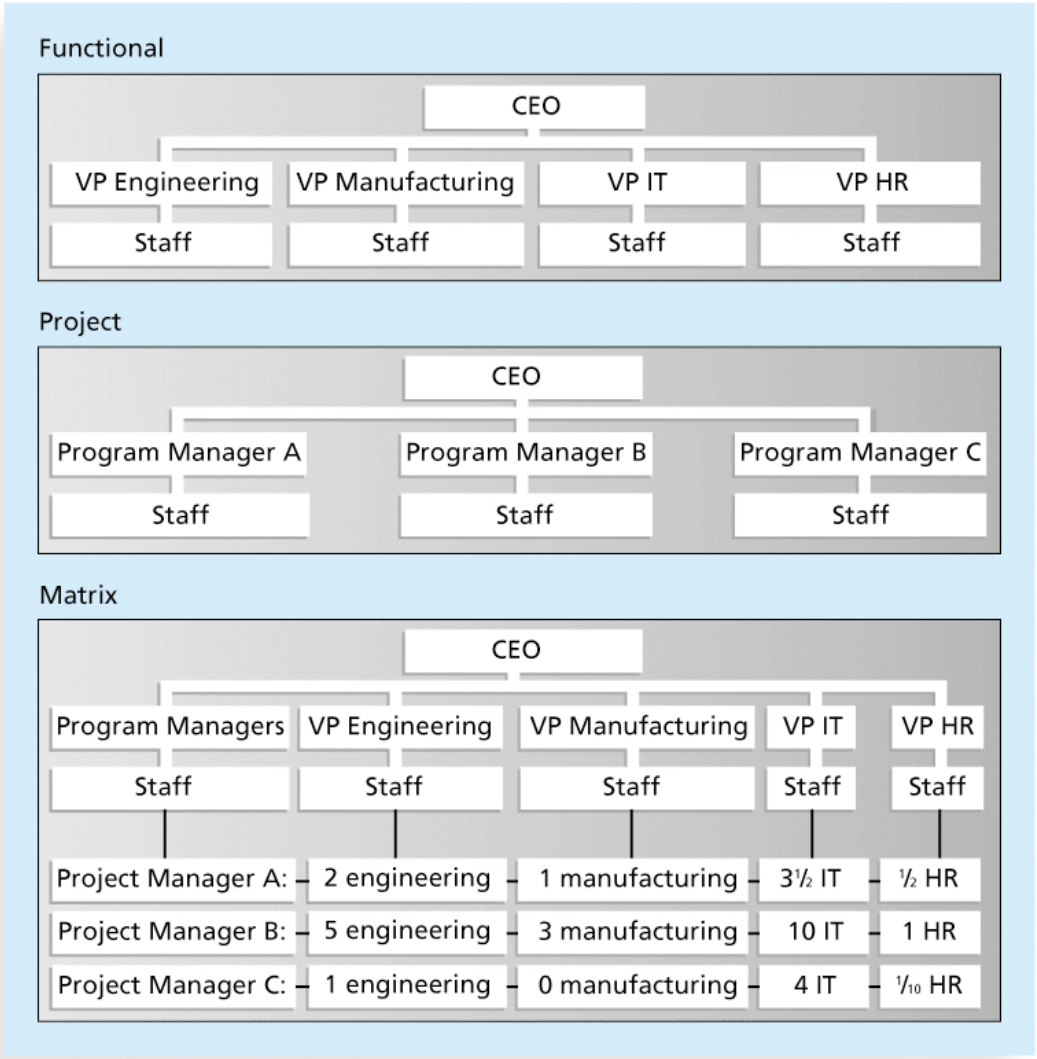
Project Management Certification 1993-2015



We Now Have A Short Break

About You !

Organizational Structures: Functional, Project, and Matrix



Organizational Structure Influences on Projects

Project Characteristics	Organizational Structure Type				
	Functional	Matrix			Project
		Weak Matrix	Balanced Matrix	Strong Matrix	
Project manager's authority	Little or none	Limited	Low to moderate	Moderate to high	High to almost total
Percent of organization's personnel assigned full-time to project work	Virtually none	0–25%	15–60%	50–95%	85–100%
Who controls the project budget	Functional manager	Functional manager	Mixed	Project manager	Project manager
Project manager's role	Part-time	Part-time	Full-time	Full-time	Full-time
Common title for project manager's role	Project coordinator/ project leader	Project coordinator/ project leader	Project manager/ project officer	Project manager/ program manager	Project manager/ program manager
Project management administrative staff	Part-time	Part-time	Part-time	Full-time	Full-time

Project Management Body of Knowledge (PMBOK)

- The PMBOK® Guide describes best practices for *what* should be done to manage projects.

- PMBOK defines project management as application of knowledge, tools and techniques to project activities to meet project requirements.

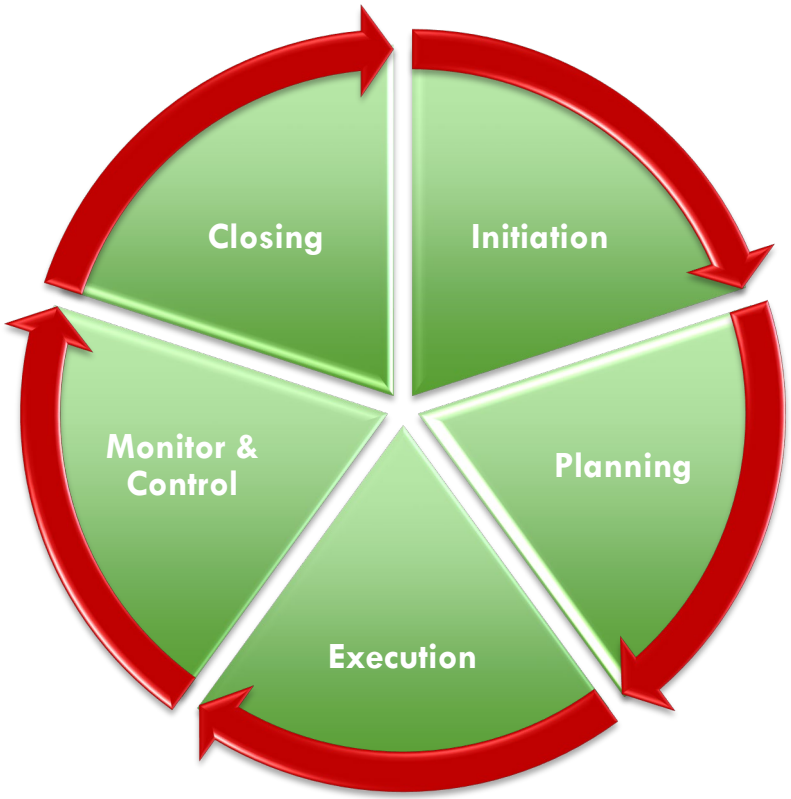
- PMBOK organised across Knowledge Areas and Processes (managed through PM Process Groups)

PM Knowledge Areas

1. Project Integration Management
2. Project Scope Management
3. Project Time Management
4. Project Cost Management
5. Project Quality Management
6. Project HR Management
7. Project Communications Management
8. Project Risk Management
9. Project Procurement Management
10. Project Stakeholder Management

Project Management Process Groups:

- Initiating
- Planning
- Executing
- Monitoring and control
- Closing



PMBOK PM Process Groups

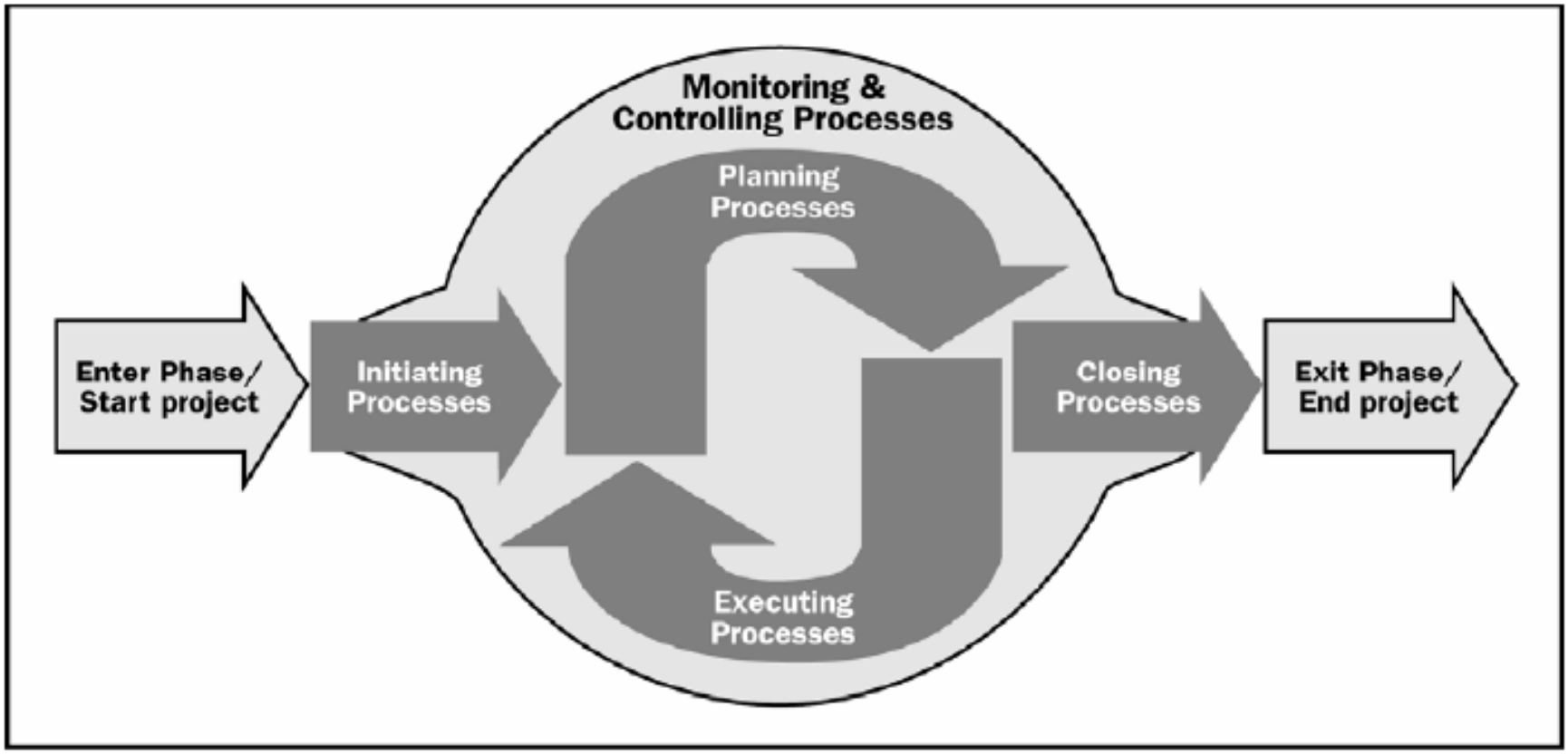


Figure 3-1. Project Management Process Groups

PMBOK Project Management Process Groups: Initiating

- Project Management Process Groups:
  - **Initiating**
  - Planning
  - Executing
  - Monitoring and control
  - Closing

Figure 4-2. Develop Project Charter: Inputs, Tools and Techniques, and Outputs

PMBOK Project Management Process Groups: Planning

- Project Management Process Groups:
  - Initiating
  - **Planning**
  - Executing
  - Monitoring and control
  - Closing

Figure 4-4. Develop Project Management Plan: Inputs, Tools and Techniques, and Outputs

PMBOK Project Management Process Groups: Executing

- Project Management Process Groups:
  - Initiating
  - Planning
  - **Executing**
  - Monitoring and control
  - Closing

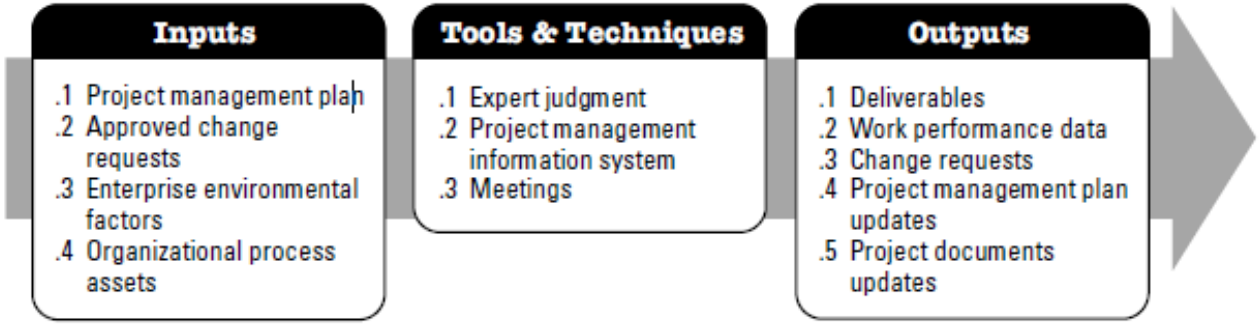


Figure 4-6. Direct and Manage Project Work: Inputs, Tools and Techniques, and Outputs

PMBOK Project Management Process Groups: Monitoring and Control

- Project Management Process Groups:
  - Initiating
  - Planning
  - Executing
  - **Monitoring and control**
  - Closing

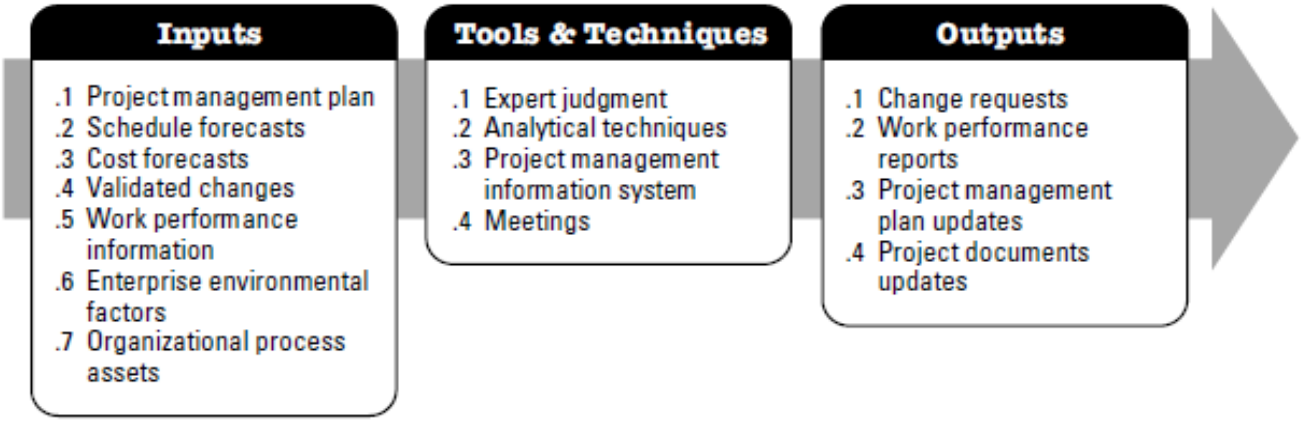


Figure 4-8. Monitor and Control Project Work: Inputs, Tools & Techniques, and Outputs

PMBOK Project Management Process Groups: Closing

- Project Management Process Groups:
  - Initiating
  - Planning
  - Executing
  - Monitoring and control
  - **Closing**

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

PMBOK Knowledge Areas and PM Process Groups

Knowledge Areas	Project Management Process Groups				
	Initiating Process Group	Planning Process Group	Executing Process Group	Monitoring and Controlling Process Group	Closing Process Group
4. Project Integration Management	4.1 Develop Project Charter	4.2 Develop Project Management Plan	4.3 Direct and Manage Project Work	4.4 Monitor and Control Project Work 4.5 Perform Integrated Change Control	4.6 Close Project or Phase
5. Project Scope Management		5.1 Plan Scope Management 5.2 Collect Requirements 5.3 Define Scope 5.4 Create WBS		5.5 Validate Scope 5.6 Control Scope	
6. Project Time Management		6.1 Plan Schedule Management 6.2 Define Activities 6.3 Sequence Activities 6.4 Estimate Activity Resources 6.5 Estimate Activity Durations 6.6 Develop Schedule		6.7 Control Schedule	
7. Project Cost Management		7.1 Plan Cost Management 7.2 Estimate Costs 7.3 Determine Budget		7.4 Control Costs	

PMBOK Knowledge Areas and PM Process Groups

Knowledge Area Processes	Project Management Process Groups				
	Initiating Process Group	Planning Process Group	Executing Process Group	Monitoring & Controlling Process Group	Closing Process Group
8. Project Quality Management		8.1 Plan Quality Management	8.2 Perform Quality Assurance	8.3 Control Quality	
9. Project Human Resource Management		9.1 Plan Human Resource Management	9.2 Acquire Project Team 9.3 Develop Project Team 9.4 Manage Project Team		
10. Project Communications Management		10.1 Plan Communications Management	10.2 Manage Communications	10.3 Control Communications	
11. Project Risk Management		11.1 Plan Risk Management 11.2 Identify Risks 11.3 Perform Qualitative Risk Analysis 11.4 Perform Quantitative Risk Analysis 11.5 Plan Risk Responses		11.6 Control Risks	
12. Project Procurement Management		12.1 Plan Procurement Management	12.2 Conduct Procurements	12.3 Control Procurements	12.4 Close Procurements
13. Project Stakeholder Management	13.1 Identify Stakeholders	13.2 Plan Stakeholder Management	13.3 Manage Stakeholder Engagement	13.4 Control Stakeholder Engagement	

Class Quiz 1

- What type of organizational structure has project team members reporting to at least two bosses?

- Answer at AnswerGarden:
- https://answergarden.ch/1362253

Class Quiz 2

- What type of organizational structure gives the least amount of authority to project managers?

- Answer at AnswerGarden:
- https://answergarden.ch/1362255

Class Quiz 3

- What type of organizational structure gives the most authority to project managers?

- Answer at AnswerGarden:
- https://answergarden.ch/1362258

Class Quiz 4

- What makes IT projects different from other types of projects? How should project managers adjust to these differences?

Lecture Summary

- A project is a temporary endeavor undertaken to create a unique product, service, or result.

- Role of a Project Manager includes — responsibilities like planning, scheduling, coordinating, and working with people to achieve project goals.

Lecture Summary .. Cont..

- PMBOK is – a generally accepted set of good practices that could be used on most projects most of the time." A methodology expands on this start by defining the, what, how, who, when and how much (Weaver, 2012).

- PMBOK guide is a foundation upon which organizations can build methodologies, policies, procedures, rules tools and techniques, and life cycle phases needed to practice project management (PMBOK 2017, 6th Ed).

Announcement (if any)

Q &A?

Thanks everyone !