



Chapter 1: Introduction to Project Management

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Information Technology
PROJECT MANAGEMENT | 7e

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Grades

- Mid term 1 15
- Mid Term 2 15
- Lab work 15
- Project 15
- Final 40

Textbook

Information Technology
Project Management- 7e

By

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Agenda

- What Is a Project?
- What Is Program and Project Portfolio?
- What Is Project Management?
 - Project Management Framework
 - Project Success
- The Role of the Project Manager
- Project Management Profession
- Chapter Summary

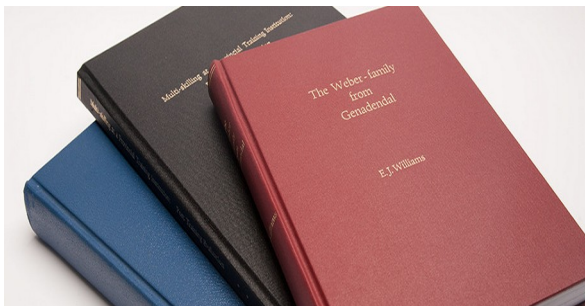


What Is a Project?

- Projects in Our Life
- Project Definition
- Project Attributes
- Project Constraints



Projects in our life





Project Definition

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

(PMBOK® Guide, Fourth Edition, 2008, p. 5)



Project Attributes

1. **Unique** Product, Service or Result, has not been done in the same way before. Example of IT projects:
 - Build a new computer or software (P)
 - Free Wi-Fi for customer (S)
 - Evaluate user experience of a website (R)



Project Attributes (cont.2)

2. **Temporary** A project has a **definitive beginning** and **definitive end**.
- Possible reasons for end:
 - Objectives have been achieved.
 - It becomes clear that objectives will not be achieved, or the need for the project no longer exists.
 - Temporary does not mean short in duration (e.g. building airport, your BSc project)
 - While the project itself is finite in duration, the product or service created by this project usually lasts much longer.

Begin of project

End of project

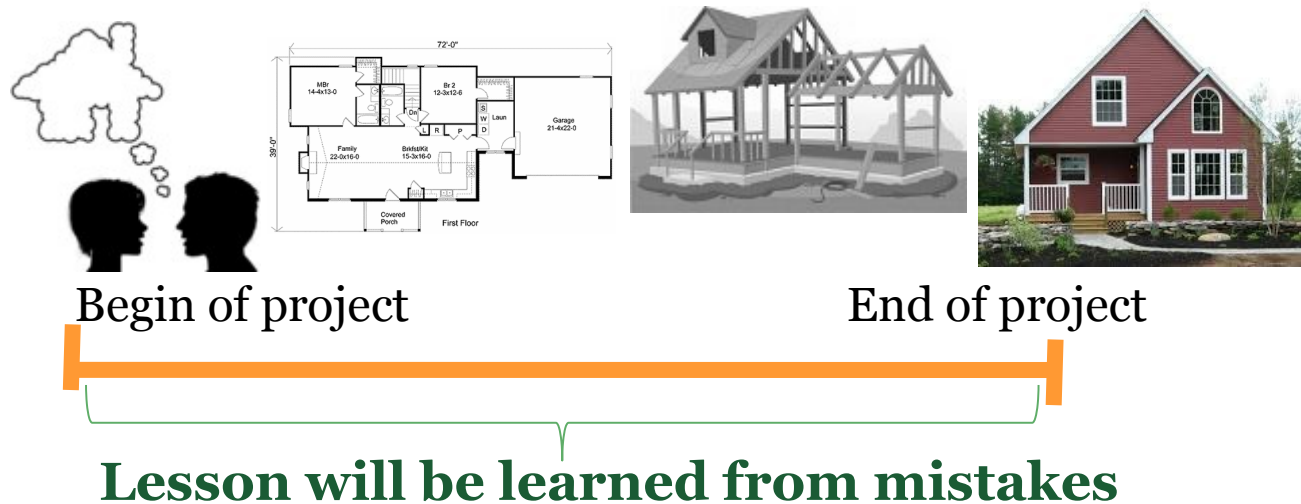


product or service created by this project



Project Attributes (cont.3)

3. **Progressive Elaboration**, means project is developing in incremental steps. At the beginning projects are often defined broadly and as time passes, the specific details of the project become more clear. A project team should develop initial plans and then update them with more detail based on new information.





Project Attributes (cont.4)

4. Requires **resources**, such as people, money, tools, equipments, administration, hardware, software.
5. A project has a **primary customer or sponsor** who provides the direction and funding for the project.
6. Involves **uncertainty** especially in terms of time, money, new technology. Because every project is unique, it is sometimes difficult to define the project's objectives clearly, estimate exactly how long it will take to complete, or determine how much it will cost. External factors also cause uncertainty, such as a supplier going out of business or a project team member needing unplanned time off.



Examples of Computing Projects

- Creating a YouTube video.
- A technician replaces ten laptops for a small department.
- A small software development team adds a new feature to an internal software application for the finance department.
- A college campus upgrades its technology infrastructure to provide wireless Internet access across the whole campus.
- Developing an e-Learning application for University.
- Implementing a fingerprint access control for college labs.
- A government group develops a system to track child immunizations.
- Developing multimedia courseware for schools

Project comes in all shapes and sizes.



Project Constraints

- A constraint is any blocker that can potentially create trouble in reaching its goal.
- To create a successful project, project managers must consider **scope, time, and cost** and balance these three often-competing goals (triple constraint).
- Managing between the triple constraints is needed.
- The other three constraints, **quality, risk, and resources**, affect the ability to meet scope, time, and cost goals.
- Quadruple ☞ triple constraint + quality.

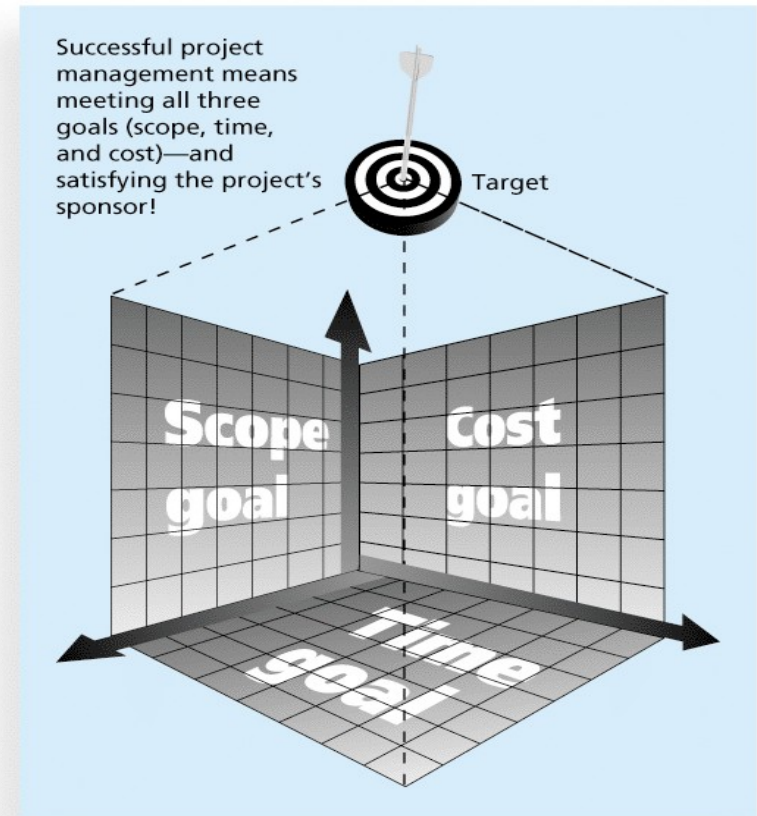


Figure 1-1 The Triple Constraint of Project Management



Project Constraints



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Project Constraints

You wanted to make a cup of tea, what could go wrong?

What might be wrong?	Constraint Type
I miss buying the match required to light the stove.	Resources
Instead of 3/4th of a cup of water, I add 1 and a 1/2 cups.	Quality
I ended up over boiling the tea mix, and now my tea does not have the flavor I expected.	Quality
If not careful I might spill hot tea on myself while straining.	Risk
I end up spending all money on buying best quality tea powder and not have money to buy sugar.	Cost
I start making a cup of tea and add coffee powder instead of tea powder. And end up making something that resembles coffee.	Scope
I planned that it should take 4-5 minutes to make a cup of tea. But I end up taking 15 minutes or more (forgetting to fire up the stove, or keeping the flame on low).	Time



What is a Program and a Portfolio?

- A program
- A Portfolio
- 3Ps



Program

- A program is a group of related projects managed in a coordinated way to **obtain shared benefits and control** not available from managing them individually.
- A **program manager** provides leadership and direction for the project managers heading the projects within the program to ensure that product and processes are implemented to maximize benefits.
- A **program manager** often review meetings with all their project.
- Many **program manager** worked as a project managers earlier.

A Program

Online Portal Services		
Online Storage	Email	Academic services

Projects



Portfolio

- A portfolio is a collection of projects or programs managed together in order to **gain a business benefit**, and/or address **strategic goals** of the organization.
- These programs or projects may or may not be related.
- Help organizations make wise investment decisions by helping to select and analyze projects from a strategic perspective.
- portfolio managers may or may not have previous experience as project or program managers.



Portfolio

A Portfolio

University IT services

Programs

Projects

Student Portal Services

Academic Portal
services

IT infrastructure

Security management

Online storage

Online storage

Servers

Network security

Email account

Email accounts

Networks

Identification
Privacy

Student services

Academic Services

Wi-Fi



3Ps

- The differences between the 3Ps (Project, Program, Portfolio):

Project	Program	Portfolio
Unique Benefit	Related projects, shared benefit	Achieve a business objective
{project1}	{project-1, project-2,...project-X}	{project-1.. project-X; program-1...program-Y}



3Ps (cont.2)

Project Management address tactical goal and Portfolio Management addresses strategic goals of the organization.

Doing the right things

Doing things right





Project Management

- What Is a Project Management ?
- Project Management Framework
- Project Stakeholders
- Project Management Tools and Techniques
- Project Success



Project Management Definition

- Project management is “**the application of knowledge, skills, tools and techniques to project activities to meet project requirements**” while effectively handling the constraints such as scope, quality, time, cost, resources and risks. (PMBOK® Guide, Fourth Edition, 2008, p. 6)
- The art of organising, leading, reporting and completing a project through people.
- Project managers strive to meet the **triple constraint** (project scope, time, and cost goals) and also facilitate the entire process to meet the needs and expectations of project stakeholders (people involved in project activities or affected by them).



Project Management Framework

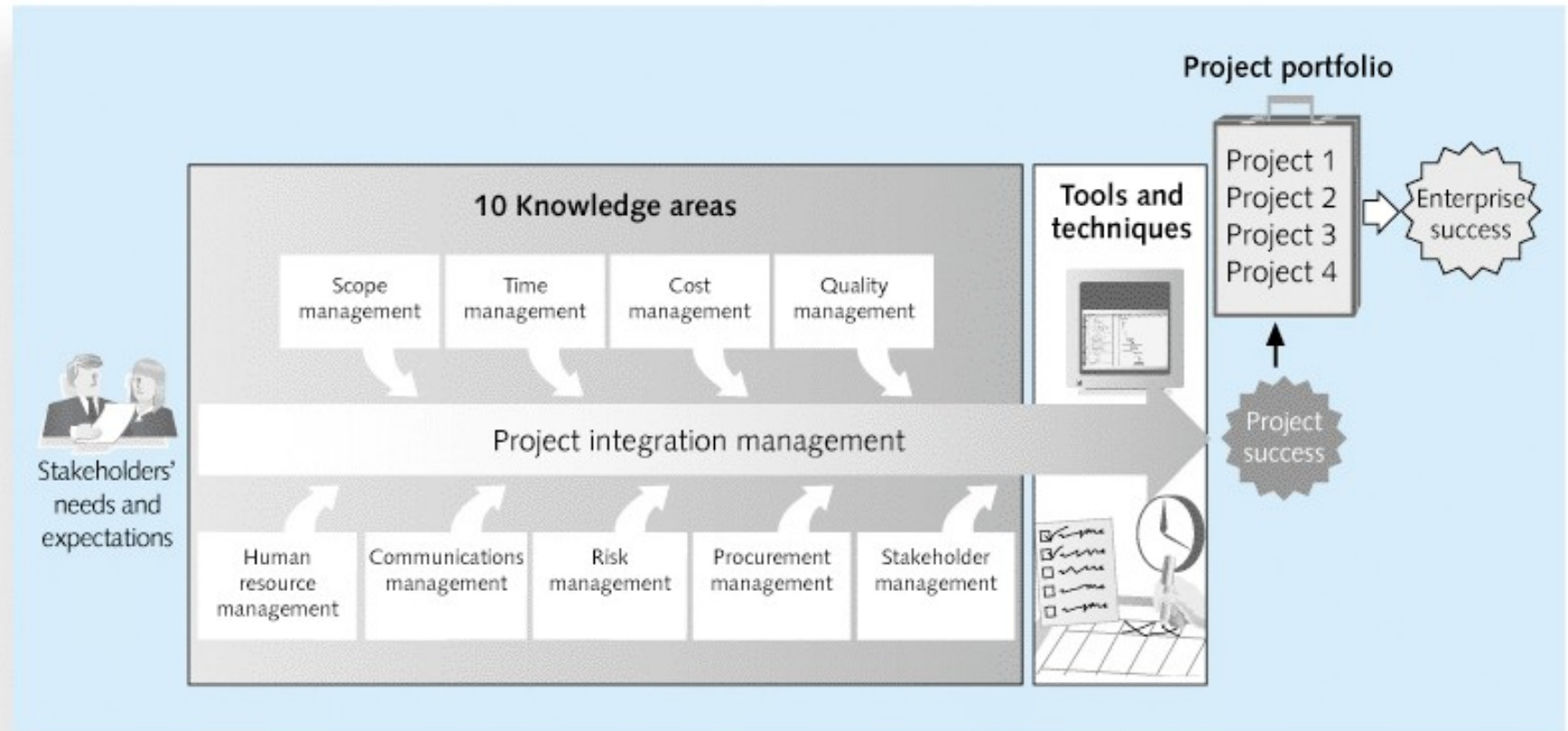


Figure 1-2 Project Management Framework



Project Stakeholders

- PMBOK® defines **Stakeholder** as “a person or organization that is actively involved in the project, or whose interests may be positively or negatively affected by execution or completion of the project.”.
- Each of them have different needs and expectations. Stakeholders’ needs and expectations are important in the beginning and throughout the life of a project. Stakeholders can change as project progresses. **For example: building a new house**
- Stakeholders include:
 - The project sponsor
 - The project manager
 - The project team
 - Support staff, administrative staff
 - Customers
 - Users
 - Suppliers, vendors
 - Opponents to the project - someone’s interest is negatively affected by the project



Knowledge Area

- **Project scope management** involves defining and managing all the work required to complete the project successfully. It defines what work is or is not included in the project
- **Project time management** includes estimating how long it will take to complete the work, developing an acceptable project schedule and ensuring timely completion of the project
- **Project cost management** consists of preparing and managing the budget for the project
- **Project quality management** ensures that the project will satisfy the stated needs for which the project was undertaken
- **Project human resources** management is concerned making effective use of the people involved with the project



Knowledge Area

- **Project communication management** involves generating, collecting, disseminating and storing project information
- **Project risk management** includes identifying, analyzing and responding to risks related to projects
- **Project procurement management** involves acquiring goods and materials for a project from outside the performing organization
- **Project stakeholder management** includes identifying and analyzing stakeholder needs while managing and controlling their engagement throughout the life of the project
- **Project integration management** is an overarching function that affects and is affected by all of the other knowledge areas



Project Management Tools and Techniques

- **Project management tools and techniques** assist project managers and their teams in various aspects of project management.
- Example: You wanted to make a hot cup of tea, what are the tools and techniques. Project managers and their team members need to determine which tools will be most useful for their projects.
- **Some examples include:**
 - Work breakdown structures (scope)
 - PM software (integration)
 - Gantt charts (time)
 - Cost estimates (cost)
 - Status and progress report (communication)

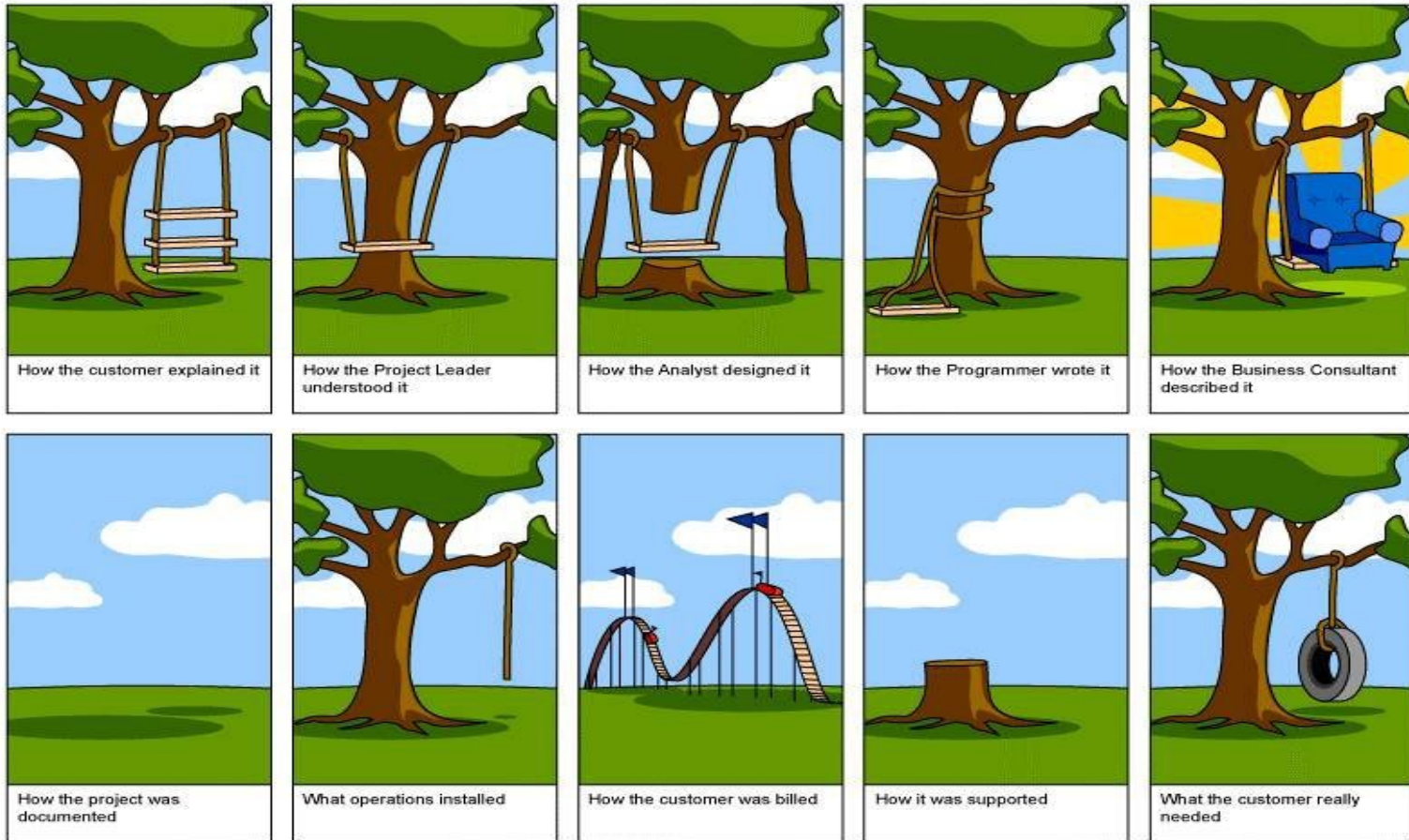


Project Success

- There are several ways to define project success:
 - The project met scope, time, and cost goals
 - The project satisfied the customer/sponsor
 - The results of the project met its main objective, such as making or saving a certain amount of money, providing a good return on investment, or simply making the sponsors happy
- When creating a project, clients must choose only one out of the three options. They cannot have it all. It's a reality of life, all stakeholders must deal with it
 - Good + Fast = Expensive
 - Good + Cheap = Slow
 - Fast + Cheap = Inferior



How project Management (doesn't) Work?





Project Failure

❖ Reasons

- ❖ Poor project and program management discipline
- ❖ Lack of executive-level support
- ❖ No linkage to the business strategy
- ❖ Wrong team members
- ❖ No measures for evaluating the success of the project
- ❖ No risk management
- ❖ Inability to manage change



Advantages of PM resulting the Success of projects

- Better control of financial, physical and human resources
- Improved customer relations
- Shorter development times
- Lower cost
- Higher quality and increased reliability
- Higher profit margin
- Improved productivity
- Better internal coordination
- Higher worker morale

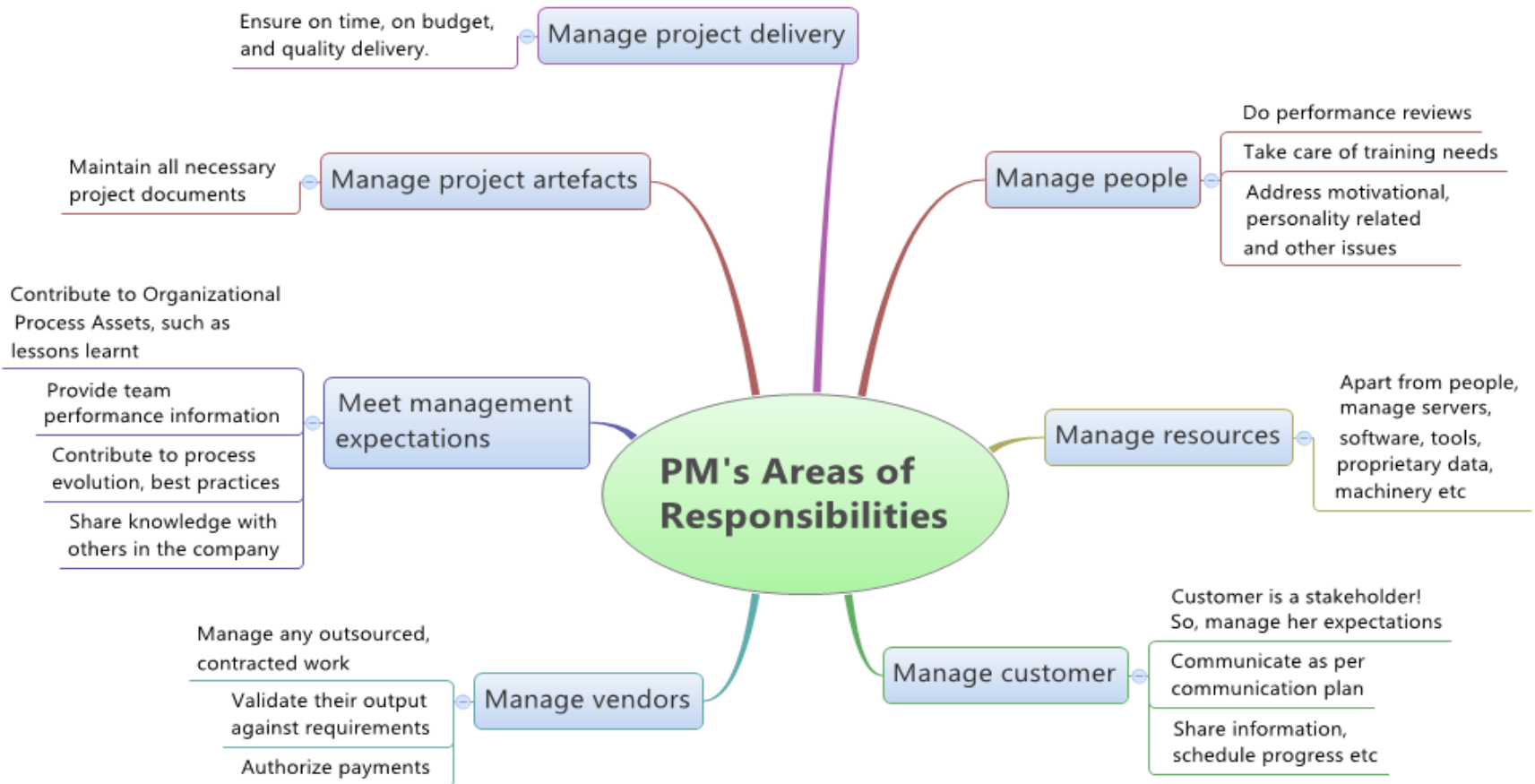


Project Manager Role

- 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



Project Manager Role



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Project Manager Skills

1. People skills
2. Leadership -focuses on long-term goals and big-picture objectives while inspiring people to reach those goals. In addition deals with day-to- day details of meeting specific goals.
3. Listening
4. Integrity, ethical behavior, consistent
5. Strong at building trust
6. Verbal communication
7. Strong at building teams
8. Conflict resolution, conflict management - Conferring with others to come to terms with them or to reach an agreement
9. Critical thinking, problem solving
10. Understands, balances priorities



Project Management Certification

- **The Project Management Institute (PMI)** is an international professional society for project managers founded in 1969
 - Students can join PMI at a reduced fee (see www.pmi.org for details)
 - PMI provides certification as a **Project Management Professional (PMP)**
- **PRINCE2** (an acronym for PProjects IN Controlled Environments) project management method
<http://www.prince-officialsite.com>



Project Management Profession

Project managers and their teams must develop **knowledge, skills and performance** in the following areas:

- All project management Processes, Process Groups and Knowledge Areas
- The application area (domain, industry, market, etc.). Education, financial, health, oil and gas etc,
- The project environment (politics, culture, change management, etc.). differ from one organization to another.
- General management (financial management, strategic planning, accounting, marketing, logistic etc.)
- Personal skills – soft skills, work with stakeholders, (leadership, interpersonal skills, attitude, motivation, negotiations, problem solving, teamwork, etc.)
- Use of effective technologies.



Project Management Ethics

- **Ethics**, loosely defined, is a set of principles that guide our decision making based on personal values of what is “right” and “wrong”
- Project managers often face ethical dilemmas
- In order to earn PMP certification, applicants must agree to PMI’s Code of Ethics and Professional Conduct
- Several questions on the PMP exam are related to professional responsibility, including ethics



Project Management Ethics

- We make decisions and take actions based on the best interests of society, public safety, and the environment.
- We accept only those assignments that are consistent with our background, experience, skills, and qualifications.
- We fulfill the commitments that we undertake—we do what we say we will do.
- We inform ourselves about the norms and customs of others and avoid engaging in behaviors they might consider disrespectful.
- We listen to others' points of view, seeking to understand them.
- We approach directly those persons with whom we have a conflict or disagreement.
- We demonstrate transparency in our decision-making process. We constantly reexamine our impartiality and objectivity, taking corrective action as appropriate.
- We proactively and fully disclose any real or potential conflicts of interest to appropriate stakeholders.
- We earnestly seek to understand the truth.
- We are truthful in our communications and in our conduct.



Project Management Software

- Three main categories of tools:
- Low-end tools: handle single or smaller projects well, cost under \$200 per user
- Midrange tools: handle multiple projects and users, cost \$200-600 per user, Microsoft Project 2007-2010 most popular
- High-end tools: also called enterprise project management software, Primavera Software
- Web based tools: AtTask and Clarizen, can integrate with smart phones
- See the Project Management Center Web site or Top Ten Reviews for links to many companies that provide project management software

🔗 <http://www.youtube.com/watch?v=C1uxCBx2-UQ&feature=fvwrel>



Summary

- A project is a temporary endeavor undertaken to create a unique product, service, or result
- Project portfolio management involves organizing and managing projects and programs as a portfolio of investments
- Project management is the application of knowledge, skills, tools, and techniques to project activities to meet project requirements
- Project managers play a key role in helping projects and organizations succeed
- A program is a group of related projects managed in a coordinated way