# Construction Management

Few PMI Definitions

- A few basic definitions:

- **PMBOK** ® - the Project Management Book of Knowledge from which PMI defines terms, standards, and good practices
- **Portfolio** – Projects, programs, and operations managed as a group to achieve strategic objectives
- **Program** - A group of projects and program activities managed in a coordinated way
- **Project** – a <u>temporary</u> endeavor undertaken to create a <u>unique</u> product, service, or result
- **Project Management** – the application of knowledge, skills, tools, and techniques to project management activities to meet project requirements
- **Project Manager** – the person <u>authorized</u> by the performing organization to direct the team <u>accountable</u> for realizing project objectives
- **Project Stakeholder** – includes all project team members and anyone impacted by or impacting the project
- **Triple Constraint** – the foundation of project management is balancing scope, time, and cost. Quality is at the center of the triple constraint

Portfolio

Programs

Projects

Time   Cost

Quality

Scope
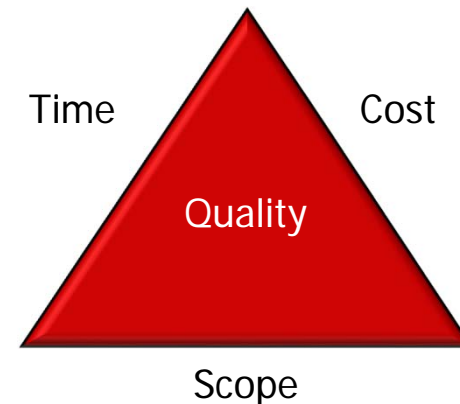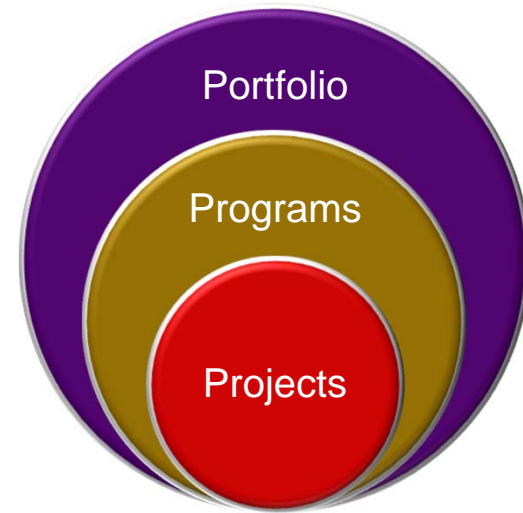
PMBOK Knowledge Areas

- A project manager is responsible for applying and managing the following nine knowledge areas:

Integration	Identify, define, combine, unify and coordinate activities within the Project Management Process Groups
Scope	Ensure the project includes all work required to complete the project successfully
Time	Manage the timely completion of the project
Cost	Manage the planning, estimating, budgeting, financing, funding, monitoring, and controlling of cost to enable the project to be completed within the approved budget
Quality	Determine quality policies , objectives, and responsibilities so that the project will satisfy the needs for which it was undertaken
Human Resources	Organize, manage, and lead the project team, including the identification of roles, responsibilities, required skills, and reporting relationships
Communication	Ensure timely and appropriate planning, collection, creation, distribution, storage, retrieval, management, control, monitoring and disposition of project information
Risk	Identify and assess risks, plan responses, and control risk to increase the likelihood and impact of positive events and decrease the likelihood and impact of negative events on the project
Procurement	Purchase or acquire and control products, services, or results needed from outside the project team
Stakeholders	Identify people, groups, or organizations that could impact or be impacted by the project; analyze expectations, and develop strategies to engage stakeholders in decisions and activities

Project Management Framework
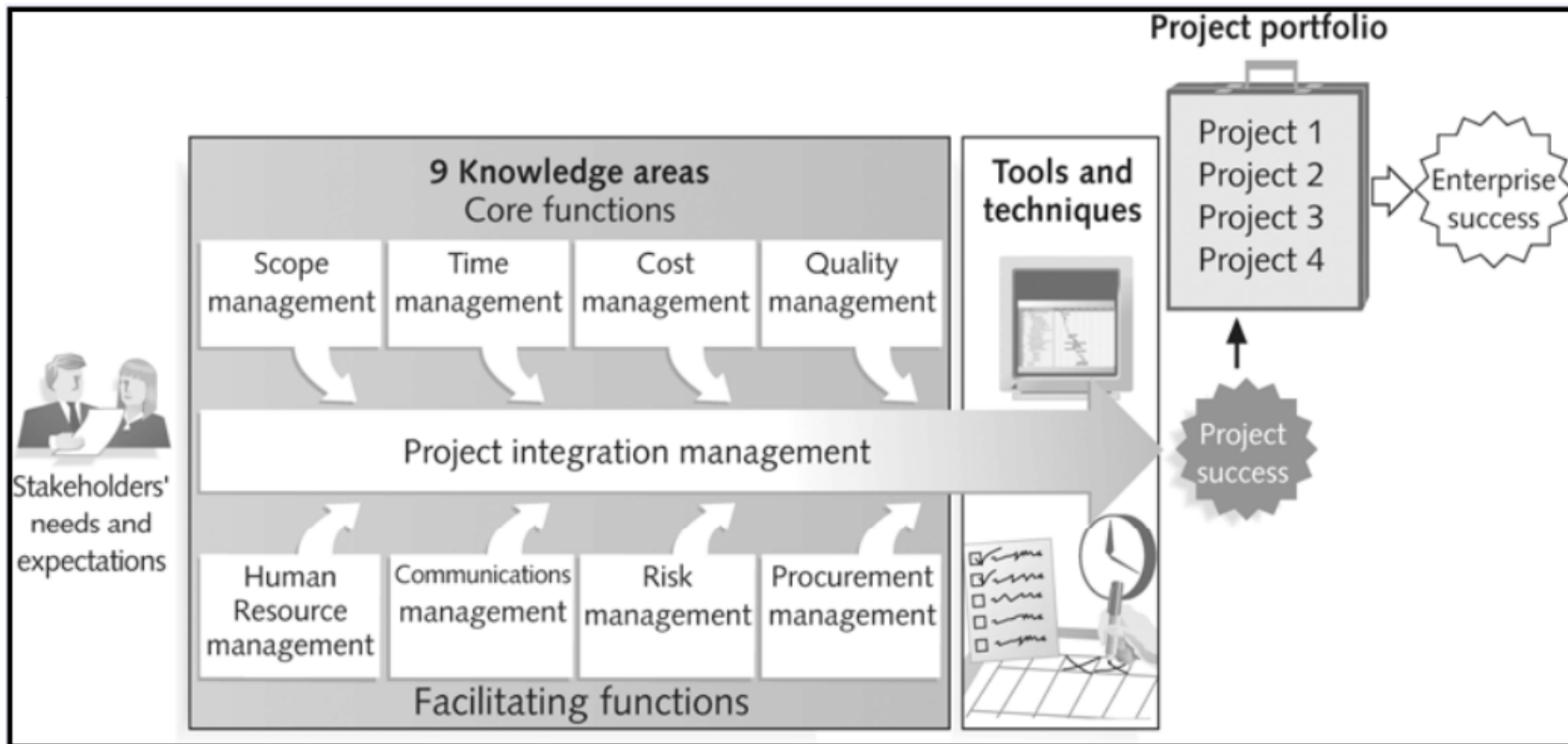
Project Management Knowledge Areas

Four core knowledge areas **lead to specific project objectives**.

➢ Project **scope** management involves defining and managing all the work required to complete the project successfully.

➢ 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 or implied needs for which it was undertaken.

Project Management Knowledge Areas

- Four facilitating knowledge areas are the means **through which the project objectives are achieved**.

    - ➢ Project **human resource** management is concerned with making effective use of the people involved with the project.

    - ➢ Project **communications** management involves generating, collecting, disseminating, and storing project information.

    - ➢ Project **risk** management includes identifying, analyzing, and responding to risks related to the project.

    - ➢ Project **procurement** management involves acquiring or procuring goods and services for a project from outside the performing organization.

- One knowledge area (**project integration management**) affects and is affected by all of the other knowledge areas.

PMBOK 9 Knowledge Areas to 5 Process Group Mapping

Process Groups / Knowledge Area	Initiating	Planning	Executing	Monitoring and Controlling	Closing
4. Project Integration Management	4.1 Develop Project Charter	4.2 Develop Project Management Plan	4.3 Direct and Manage Project Execution	4.4 Monitor and Control Project Work 4.5 Perform Integrated Change Control	4.6 Close Project or Phase
5. Project Scope Management		5.1 Collect Requirements 5.2 Define Scope 5.3 Create WBS		5.4 Verify Scope 5.5 Control Scope	
6. Project Time Management		6.1 Define Activities 6.2 Sequence Activities 6.3 Estimate Activity Resources 6.4 Estimate Activity Durations 6.5 Develop Schedule		6.6 Control Schedule	
7. Project Cost Management		7.1 Estimate Costs 7.2 Determine Budget		7.3 Control Costs	
8. Project Quality management		8.1 Plan Quality	8.2 Perform Quality Assurance	8.3 Perform Quality Control	
9. Project Human Resource Management		9.1 Develop Human Resource Plan	9.2 Acquire Project Team 9.3 Develop Project Team 9.4 Manage Project Team		
10. Project Communications Management	10.1 Identify Stakeholders	10.2 Plan Communications	10.3 Distribute Information 10.4 Manage Stakeholder Expectations	10.5 Report Performance	
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 Monitor and Control Risks	
12. Project Procurement Management		12.1 Plan Procurements	12.2 Conduct Procurements	12.3 Administer Procurements	12.4 Close Procurements