

# Framework for Project Management

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# The Problem



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# Why Care

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# The Solution



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# Framework for Project Management

- Project Management as a profession
- The Project Management Institute (PMI)
- Project Management Knowledge Areas
- Project Management Certifications
- Scrum development
- The Project Management Office



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# Project Management as a Profession

- Body of knowledge
- Standards
- Professional organizations
- Currently, anyone can call him or herself a project manager
- Unresolved issue: to what extent can an expert PM move from one industry to another?



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# Project Management Standards

- Standards organizations
- PMI
  - Project Management Institute: <http://www.pmi.org/>
  - CAPM, PMP and other professional standards
- IPMA
  - International Project Management Association: <http://ipma.ch/>
  - Several certifications



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# Project Management Institute (PMI)

- Established in 1969
- Certifications: most popular is PMP
  - Also offer CAPM, for novice PMs, and several specialized certifications
- Currently over 590,000 PMPs in the world
- Have published the ***Project Management Body of Knowledge*** or **PMBOK**, now in its 5<sup>th</sup> edition.



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# Project Management Professional (PMP)

- Requirements:
  - 5 years of project management experience
  - pass a rigorous exam
  - maintain ongoing professional development
- Currently over 590,000 PMPs in the world
- The CAPM or Certified Associate in Project Management only requires an exam and is considered to be a step along the way to a PMP



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# PMBOK Knowledge Areas

- Managing Integration
- Managing Scope
- Managing Time/Schedule
- Managing Costs
- Managing Quality
- Managing Human Resources

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# PMBOK Knowledge Areas (continued)

- Managing Communication
- Managing Risks
- Managing Procurement
- Managing Stakeholders



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# Project Integration

- Very active during the startup
- Coordinates all activities in all other knowledge areas



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# Project Scope

- Scope generally defines what the project is all about
- Forms the basis of agreement between the project **SPONSOR** and the project team
- Changes in the scope may be proposed at any time during a project, but should follow a clearly defined approval process



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# Scope Statement

- Description of the scope
- Acceptance criteria
- Deliverables
- Exclusions
- Constraints
- Assumptions



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# Scope and the WBS

- A Work breakdown structure or WBS is the breakdown of the deliverables into manageable units of work.



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# Schedule and Time Management

- Based on the units of work defined by the WBS
- Resources required are identified
- Time durations are estimated
- Dependencies are identified (such as, what task must be completed before another task can begin)
- And a schedule can be created



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# Schedule and Time Management

- Several methods are available—details in a later chapter
- Software is frequently used to assist with managing the time schedule



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# Project Costs

- Develop a budget
  - Several methods can be used to estimate
- Plan for the cash flow
- Track the expenditures
- Explain deviations and make adjustments where required



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# Project Quality

- Quality plan defines
  - The quality standards
  - The methods that will be used to achieve the standards
  - The methods that will be used to measure the standards



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# Human Resources

- Identification of HR requirements
- Selection of project team
- Development of project team
- Motivation and management of the project team



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# Communication

- Communication includes within the team and with others outside the team
- The project should have a communication plan
  - Who needs to be communicated with
  - What methods will be used
  - What frequency
  - Who within the project will be responsible



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# Risk

- Risk represents the likelihood of the occurrence of an event that will negatively or positively impact the achievement of the project goals
- Processes:
  - Identify risks
  - Analyze risks
  - Manage risks



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# Procurement

- Contracting to obtain supplies or services required to carry out the project
- May be extremely complex
- Time schedules can be crucial
- On complex projects, almost always involves additional experts such as lawyers



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# Stakeholder Management

- Stakeholders are people or organizations who either will be impacted by the project or who can impact the project.
- Always include: project sponsor, project team
- May include: customers, suppliers, vendors, the public, land owners, voters, other departments within the organization, government, etc.



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# Stakeholder Management

- Major tool is the stakeholder register
- Lists stakeholder, role, all communications
- Updated regularly throughout the project
- New stakeholders can appear at any time



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# PMI Process Groups

- Project Initiating
- Project Planning
- Project Executing
- Project Monitoring and Controlling
- Project Closing



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# Knowledge Areas (PMBOK)

Knowledge Area	Initiating	Planning	Executing	Monitoring and Controlling	Closing
<b>Project Integration Management</b>	<ul style="list-style-type: none"><li>• Develop Project Charter</li></ul>	<ul style="list-style-type: none"><li>• Develop Project Management Plan</li></ul>		<ul style="list-style-type: none"><li>• Monitor and Control Project Work</li><li>• Perform Integrated Change Control</li></ul>	<ul style="list-style-type: none"><li>• Close Project or Phase</li></ul>
<b>Project Scope Management</b>		<ul style="list-style-type: none"><li>• Plan Scope Management</li><li>• Collect Requirements</li><li>• Define Scope</li><li>• Create WBS</li></ul>		<ul style="list-style-type: none"><li>• Validate Scope</li><li>• Control Scope</li></ul>	
<b>Project Time Management</b>		<ul style="list-style-type: none"><li>• Plan Schedule Management</li><li>• Define Activities</li><li>• Sequence Activities</li><li>• Estimate Activity Resources</li><li>• Estimate Activity Durations</li><li>• Develop Schedule</li></ul>		<ul style="list-style-type: none"><li>• Control Schedule</li></ul>	
<b>Project Cost Management</b>		<ul style="list-style-type: none"><li>• Plan Cost Management</li><li>• Estimate Costs</li><li>• Determine Budget</li></ul>		<ul style="list-style-type: none"><li>• Control Costs</li></ul>	
<b>Project Quality Management</b>		<ul style="list-style-type: none"><li>• Plan Quality Management</li></ul>	<ul style="list-style-type: none"><li>• Perform Quality Assurance</li></ul>	<ul style="list-style-type: none"><li>• Control Quality</li></ul>	



# Knowledge Areas (PMBOK)

Knowledge Area	Initiating	Planning	Executing	Monitoring and Controlling	Closing
Project Human Resource Management		<ul style="list-style-type: none"><li>• Plan Human Resource Management</li></ul>	<ul style="list-style-type: none"><li>• Acquire Project Team</li><li>• Develop Project Team</li><li>• Manage Project team</li></ul>	<ul style="list-style-type: none"><li>•</li></ul>	
Project Communications Management		<ul style="list-style-type: none"><li>• Plan Communications Management</li></ul>	<ul style="list-style-type: none"><li>• Manage Communications</li></ul>	<ul style="list-style-type: none"><li>• Control Communications</li></ul>	
Project Risk Management		<ul style="list-style-type: none"><li>• Plan Risk Management</li><li>• Identify Risks</li><li>• Perform Qualitative Risk Analysis</li><li>• Perform Quantitative Risk Analysis</li><li>• Plan Risk Responses</li></ul>		<ul style="list-style-type: none"><li>• Control Risks</li></ul>	
Project Procurement Management		<ul style="list-style-type: none"><li>• Plan Procurement Management</li></ul>	<ul style="list-style-type: none"><li>• Conduct Procurements</li></ul>	<ul style="list-style-type: none"><li>• Control Procurements</li></ul>	<ul style="list-style-type: none"><li>• Close Procurements</li></ul>
Project Stakeholder Management	<ul style="list-style-type: none"><li>• Identify Stakeholders</li></ul>	<ul style="list-style-type: none"><li>• Plan Stakeholder Management</li></ul>	<ul style="list-style-type: none"><li>• Manage Stakeholder Engagement</li></ul>	<ul style="list-style-type: none"><li>• Control Stakeholder Engagement</li></ul>	



# Scrum Development Overview

- Known as an Agile method
- Used when requirements are difficult to define or subject to rapid change
- Iterative approach
- Uses **sprints** or 2 to 4 week cycles



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# Scrum Development Overview

- Roles
  - Product owner
  - Scrum Master
  - Development Team
    - May include specialist roles such as developer, subject matter expert



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# Scrum Development Overview

- Priorities: stories are either on the:
  - Front burner (currently working on)
  - Back burner (next up)
  - Fridge (for later)
- Priorities are revisited before each new sprint



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# Scrum Development Overview

- Daily stand-up meeting (short meeting with fixed agenda)
  - What was done yesterday
  - What will be done today
  - Are there any problems the scrum master must address, such as resource issues out of the control of the team



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# Scrum Development Caveats

- Requires committed, mature developers
- Major work must still be done up front
- Needs commitment and involvement of Product Owner
- Best for products that require frequent updates
- Not so good for large, totally new products that will not allow frequent updates after release



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# The Project Management Office (PMO)

- Medium and large organizations
- Typical objectives
  - Align projects with organizational objectives
  - Set standards for projects
  - Provide resources to project managers
  - Provide training and mentorship
  - Provide facilitation
  - Stay abreast of best practices in Project Management
  - Repository for project reports and lessons learned



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# Framework for Project Management

- Project management as a profession
- The Project Management Institute
- Project Management Certifications: PMP, CAPM
- PMBOK overview: ten knowledge areas; five process groups
- Scrum methodology
- The Project Management Office



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# Questions?



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