



# Bridge Course – PMBOK® 5 to 6

[www.qaiglobal.com](http://www.qaiglobal.com)

"PMP" and the PMP logo are certification marks registered in the United States and other nations;



# Major Changes

---

- 1) Agile (Adaptive PM) Addition
- 2) Knowledge Area Changes - Renaming
- 3) Process Changes
  - I. New Processes
  - II. The word Control in Process Names
  - III. Close Procurement removed
  - IV. Processes with Changed scope
- 4) New Chapter – The role of PM
- 5) Other Changes – Business Documents & New Organizational Structures

# PMBOK® Evolution

---

The *PMBOK® Guide* has gone from

- ❑ 39 processes in the 3rd edition to
- ❑ 42 processes in the 4th edition to
- ❑ 47 processes in the 5th edition to
- ❑ **49 processes now in the 6th edition**

# Changes in PMP Exam

---

- ❑ It is the PMP Exam content Outline that guides the exam formulation, which was last updated in July 2015
- ❑ The PMP exam is not solely based on the PMBOK, although it is a primary reference
- ❑ This update is more about **aligning** the exam with PMBOK 6<sup>th</sup> edition

Note: 26<sup>th</sup> March 2018 is the cut-off date

# 1) Agile (Adaptive PM) Addition

---

- 1) Agile and adaptive environment considerations in each knowledge area. PMI discusses how the knowledge area is applicable over a range of predictive to adaptive life cycles.
- 2) Although, not part of the *PMBOK® Guide*, a separate Agile Practice Guide has been released with the *PMBOK® Guide* 6th edition

If you are exposed to Agile processes and have been using terms such as iterations, product backlog, sprint backlog, user stories, release planning, iteration or sprint planning, kanban board, refactoring, test driven development, scrum master, agile coach, etc. you will be delighted to see them. Expect agile terminology to become part of the standard PMP exam.

## 2) New Processes

---

From 47 to 49 processes now in the upcoming 6th edition, by adding 3 new processes and removing one (Close Procurements)

- **Manage Project Knowledge:** This process serves to expand the Knowledge Management industry paradigm of managing information within the project. It starts from collection of "raw data" that is then transformed to "integrated information", which in turn is converted to "knowledge" to assist in "decision making". Additionally, this process addresses the need to learn lessons throughout the project lifecycle, and delivers a "lessons learned register" as an output.
- **Implement Risk Responses:** This addition fills the gap that existed between the 5 planning processes and the one monitoring and controlling process in Risk Management knowledge area. This process was integrated with the "Direct and Manage Project Work" process in earlier *PMBOK® Guide* versions. Considering the importance of risks on projects, this is a welcome addition.
- **Control Resources:** is a fair addition to the *PMBOK® Guide*. The process "Manage Project Team" which allows a PM to address issues related to team member performance continues to carry through from the previous editions. However, as every project manager recognizes, it is also important to assess actual vs. planned usage of equipment, material, supplies, and human resources.

# 3) Knowledge Area Changes

---

## Knowledge Areas, Process Name Changes, and Shuffling of Processes

### a. Change of Name of Knowledge Areas

- 1) The change of "Project Time Management" to "Project Schedule Management" is a synonymous and an appropriate switch.
- 2) Change of the process "Project Human Resource Management" to "Project Resource Management" represents a proactive stance from PMI for project managers to keep an eye on all resources - not just human resources. This includes physical - equipment, supplies, and material, and of course, human resources.

### b. Change of Name of Processes

- 1) Plan Stakeholder Management to Plan Stakeholder Engagement
- 2) Plan Human Resource Management to Plan Resource Management: This follows the change of the knowledge area above.

# 3. Knowledge Area Changes Continued

---

- 3) Control Communications to Monitor Communications
- 4) Control Risks to Monitor Risks
- 5) Control Stakeholder Engagement to Monitor Stakeholder Engagement
- 6) Perform Quality Assurance to Manage Quality.
  - According to PMI, market research shows majority of quality tools and techniques are no longer used in the industry and quality in today's world refers to managing quality to the quality management plan.



## 4. The word Control in Process Names

---

- PMI has made a conscious attempt to move away from the phrase "Control", and to instead use "Monitor" where applicable, particularly in processes that involve people.
  - 1) Control Communications to Monitor Communications
  - 2) Control Risks to Monitor Risks
  - 3) Control Stakeholder Engagement to Monitor Stakeholder Engagement
- However, the following processes continue to have the word control in them for good reason –
  - 1) Monitor and Control Project Work,
  - 2) Control Schedule,
  - 3) Control Costs,
  - 4) Control Quality,
  - 5) Control Procurement, and
  - 6) the newly added process of Control Resources.

## 5) Close Procurement removed

---

Closing Procurement is closed out from *PMBOK® Guide*

This is another major change in our opinion. PMI opined that several project managers do not have the authority to close contracts and/or procurements and thus, the actions that are related to closing procurements have been transferred to Control Procurements and Close Project or Phase.

---

# New Processes – in detail

# Manage Project Knowledge

---



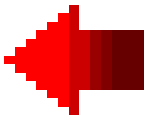
This process involves applying existing knowledge and creating new knowledge



PM Plan, Lessons Learned Register,



Expert Judgment, Knowledge Management, Information Management, Interpersonal and Team skills (Active Listening, Facilitation, Leadership, Networking)

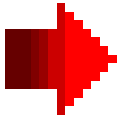


Lessons Learned Register, PM Plan updates, Organizational Process updates

# Control Resources



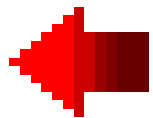
Ensuring right resource is available at the right time and monitoring effective resource utilization



Resource Management Plan, Physical Resource Assignment, Project Schedule, Work Performance Data, Agreements



Data Analysis (Alternative Analysis/Cost-benefit Analysis/Trend Analysis) , Problem Solving, Interpersonal skills, PMIS



Work Performance Information, Change Requests, updates to PM Plan

# Implement Risk Responses

---



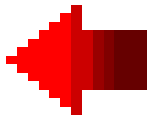
The process of implementing agreed upon risk response plans



Risk Management Plan, Risk Register



Expert Judgment, Interpersonal Skills  
(Influencing)



Change Requests, Updates to Risk Register



---

# Processes with Revised Scope

# Manage Quality

---

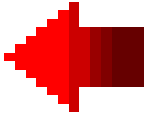
**Change:** Manage Quality has a broader definition than quality assurance (as earlier). Translating the quality requirements identified during the Plan Quality Management process are turned into test and evaluation instruments, which are then applied during the Control Quality process



Quality Management Plan, Quality Control Measurements, Risk Report



Checklists, Alternative Analysis, Document Analysis, Audits, Process Analysis, Quality Improvement Methods



Quality Reports, Test and Evaluation Documents, Change Requests, Updates to PM Plan

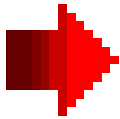




# Acquire Resources

---

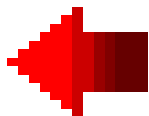
**Change:** This process earlier named as 'Acquire Project Team' now covers acquiring physical resources as well



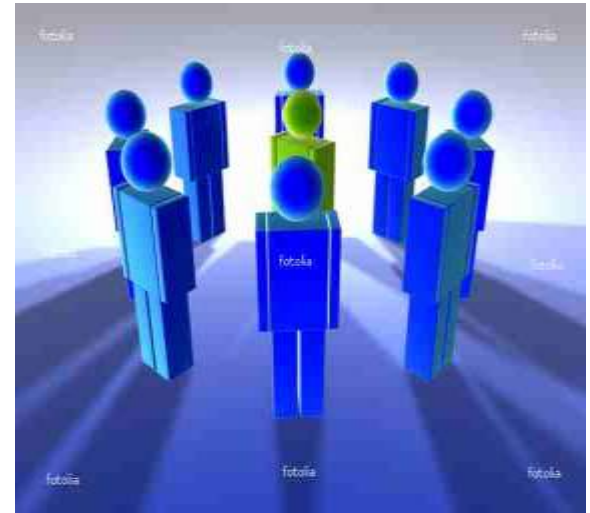
Resource Management Plan, Procurement Management Plan



Decision making (Multi-Criteria decision analysis), Interpersonal skills (Negotiation), Pre assignment, Virtual teams



Physical Resource assignment, Team assignments, Resource Calendars



# Control Procurements

---

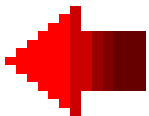
**Change:** This process focused on managing Procurement relationships, monitoring Contract Performance and making changes as needed. Contract closure (earlier a separate process) has been added to the scope of this process



Project Management Plan, Agreements, Procurement Documentation, Approved Change Requests



Claims Administration , Performance Reviews, Earned Value Analysis, Inspection and Audits



Closed Procurements, Procurement Documentation updates, Change Requests, Updates to PM Plan, Project Documents and Organizational Process Asset

# Control Procurements

---

- Matching of Seller's Performance with Contractual obligations- considering the Performance Reports from Vendors
- Management of multiple Vendors and Communications updation with Key Stakeholders
- Making of necessary payments and maintaining necessary documentation against invoices
- Management of Change Requests through Contract Change Control Systems and conducting Procurement Performance Reviews
- Claims Administration and updation of Organizational Process Assets
- Control Procurement can be treated as a separate administrative function separate from project organization for large scale projects

*Managing the relationship between the Buyer and Seller*



# Contract Closure

---



- Involves notification that all the work and deliverables were acceptable
- Includes updating of records to reflect final results and archiving results for future use
- How effective the procurement procedures were?  
Can be useful information for the current or succeeding projects
- In some cases, the early termination of the Contract is invoked, which can call for Negotiated Settlements
- Organizational Process Assets are updated – including updates to Procurement File, Deliverables Acceptance and Lessons Learned Seller Performance Reports etc.

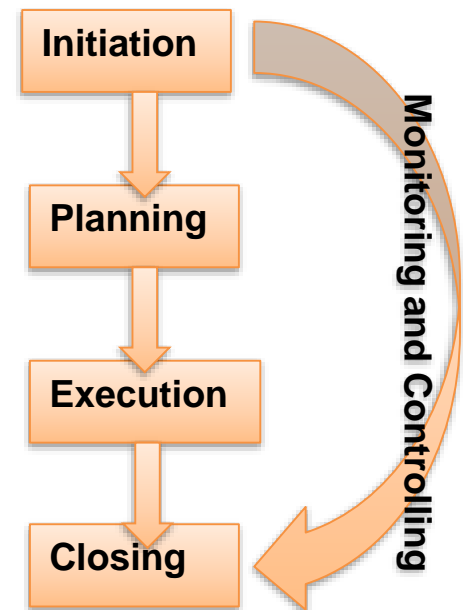


---

# Process Groups in Adaptive environment

# Project Management Process Groups

- **Initiation** – Those processes performed to define a new project by obtaining authorization to start the project. (*Project Charter*)
- **Planning** – Those processes required to establish the scope, refine objectives and defining the course of action required to attain the objectives of the project (*Project Management Plan*)
- **Executing** – Those processes performed to complete the work defined in the Project Plan (*Deliverables*)
- **Monitoring & Controlling** – Those processes required to track, review and regulate the progress and performance of the project (*Change Requests*)
- **Closing** – Those processes required to finalize all activities across all process groups to bring the project to an orderly end (*Lessons Learned*)



# Project Management Process Groups in Adaptive environments

---

## **Initiation**

- Adaptive projects revisit and revalidate the project charter on a frequent basis. on each iterative cycle of an adaptive life cycle project
- Adaptive projects rely heavily on a knowledgeable customer. Identification of this stakeholder or other stakeholders at the start of the project permits frequent interactions when performing Execution and Monitoring and Controlling processes

## **Planning**

- Adaptive life cycles, develop a set of high-level plans for the initial requirements and progressively elaborate requirements to an appropriate level of detail for the planning cycle
- Projects navigating high degrees of complexity and uncertainty should involve as many team members and stakeholders as possible in the planning processes

# Project Management Process Groups in Adaptive environments

---

## **Execution**

- Work is directed through managed Iterations, which is short and fixed in duration
- Work done in iteration is followed by a demonstration (retrospection). Benefits of retrospection include:
  - check progress against the plan and determines if any changes to the project scope, schedule, or execution processes
  - help manage stakeholder engagement by showing increments of work done
  - allows issues with the execution approach to be identified and ideas for improvements generated
  - primary tool to manage project knowledge
- While work is undertaken via short iterations, it is also tracked and managed against longer-term project delivery. Trends such as velocity, team capacity, spends, defect rates are extrapolated to track performance
- Rather than PM selecting and sequencing work team members are empowered to self-organize specific tasks as a group to best meet those objectives – better buy-in



# Project Management Process Groups in Adaptive environments

---

## **Monitoring & Controlling**

- Adaptive approaches track, review, and regulate progress and performance by maintaining a Backlog. The backlog is prioritized by a business representative
- Work is pulled from the top of the backlog for the next iteration based on business priority and team capacity
- Backlog acts as a single place for stakeholders to manage and control project work, perform change control, and validate scope
- Trends, and metrics on work performed, change effort and defect rates, Team capacity, velocity are all used to measure progress and forecast.
- These metrics and projections are shared with project stakeholders via trend graphs (information radiators) to communicate progress, share issues, drive continuous improvement activities, and manage stakeholder expectations

# Project Management Process Groups in Adaptive environments

---

## **Closing**

- Adaptive approaches in cases where a project is prematurely closed , there is a high chance that some useful business value will already have been generated as against predictive life cycles. This is because highest business value items are prioritized.

---

Each KA now starts with 3 new sections,  
very briefly covering

- ❑ *Trends and emerging practices*
- ❑ *Tailoring considerations*
- ❑ *Considerations for Agile/Adaptive environments*

# Integration Management

---

Some emerging trends are:

- Use of automated tools
- Use of Visual management tools
- Project knowledge management
- Expanding the project manager's responsibility
- Hybrid methodologies

In an agile environment, detailed product planning and delivery is delegated to the team. Nevertheless, Project Managers responsibility of integration doesn't change still. Project Managers focus is on building a collaborative decision making environment.

# Scope Management

---

Some emerging trends are:

Use of Business Analysis in defining, managing and controlling requirements management activities. Business analysis activities may start before a project is initiated.

Projects may be assigned a Business Analyst role in which case all requirements management responsibility will be owned by this person. However, PM needs to ensure all requirements related work is accounted for in Project plan and conducted on time and to budget.

# Scope Management

---

## Agile Considerations....

- The overall scope of an adaptive project will be decomposed into a set of requirements and work to be performed, sometimes referred to as a **product backlog**. The backlog continues to evolve all through the project life cycle
- Agile methods deliberately spend less time trying to define and agree on scope in the early stage of the project and spend more time establishing the process for its ongoing discovery and refinement
- During iteration planning, the three processes (Collect requirement, Define scope and create WBS) are repeated for each iteration contrary to predictive life cycles
- In Agile, the customer/sponsor is continuously (end of each iteration) engaged with the project to review products and provide feedback. Thus 'Validate Scope' process is a continuous activity in agile contrary to predictive life cycle where this happens at the end of project (or phase)
- Projects run in an agile methodology use backlogs as against scope baseline for scope validation and control

# Schedule Management

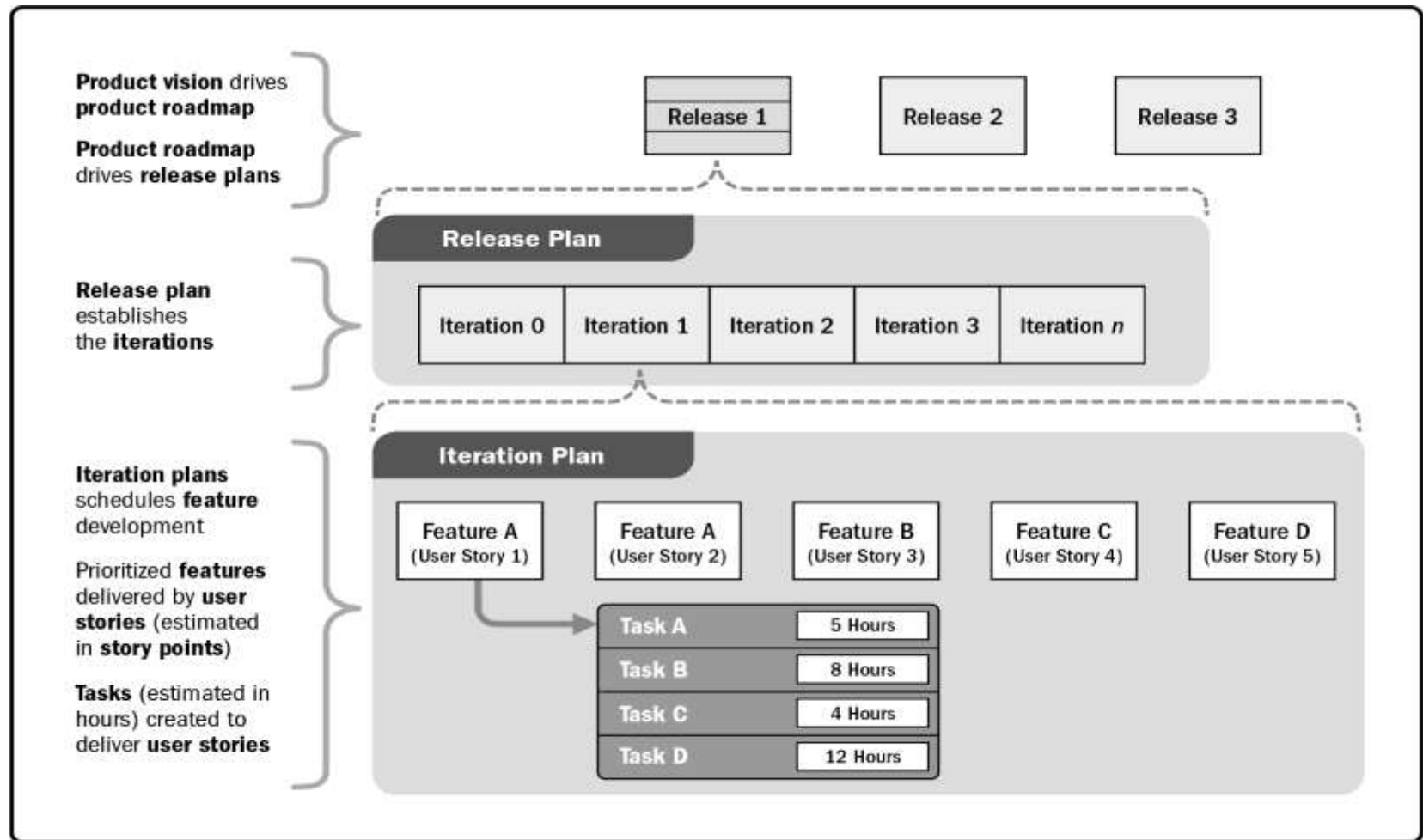
---

Some emerging trends are:

**Iterative scheduling:** This is a form of rolling wave planning based on adaptive life cycles. The benefit of this approach is that it welcomes changes throughout the development life cycle

- While tailoring schedule management process PM needs to consider factors such as
  - Lifecycle approach
  - Resource availability
  - Project dimensions
  - Technology support

# Agile Release Planning

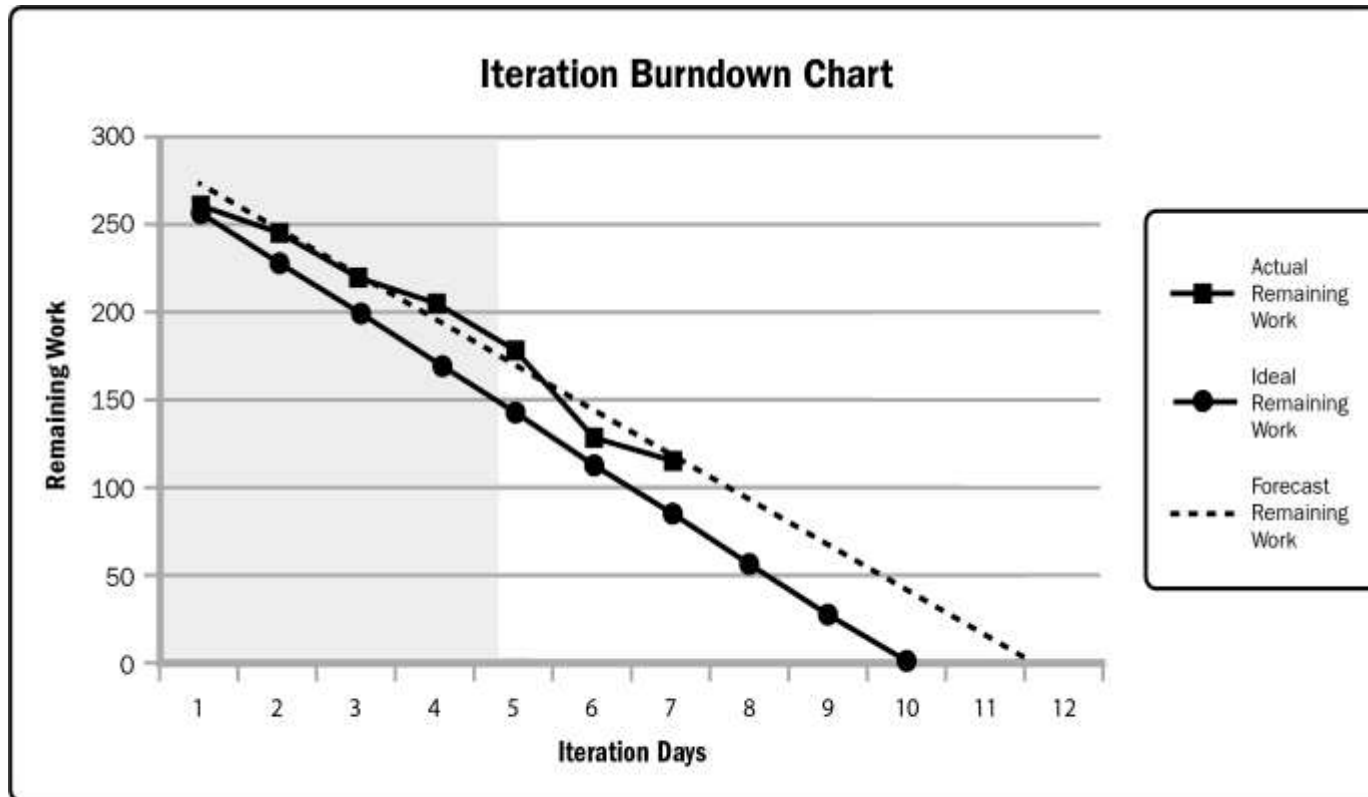


**Figure 6-20 (Guide).** Relationship Between Product Vision, Release Planning, and Iteration Planning

*A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Sixth Edition.* ©2017 Project Management Institute, Inc. All rights reserved.



# Burndown Chart



**Figure 6-24 (Guide).** Iteration Burndown Chart

*A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Sixth Edition. ©2017 Project Management Institute, Inc. All rights reserved.*

# Cost Management

---

Some emerging trends are:

**Expansion of Earned Value Management** – Earned schedule (ES) and Actual Time (AT)

❑  $SV = ES - AT$

❑  $SPI = ES/AT$

# Cost management

---

Some Agile considerations....

- Projects with high degrees of uncertainty or those where the scope is not yet fully defined may not benefit from detailed cost calculations due to frequent changes.
- *Lightweight estimation* can be used to generate a fast, high-level forecast of project labour costs, which can then be easily adjusted as changes arise. Detailed estimates are reserved for short-term planning horizons in a just-in-time fashion
- When using agile approach with high-variability projects where the budget is also constrained, the scope and schedule are adjusted to stay within cost constraints. *Scope swapping* can be opted for.

# Quality Management

---

Some emerging trends in Quality Management include:

- ❑ **Customer Satisfaction** - This requires a combination of conformance to requirements and fitness for use. In Agile environments continuous/frequent engagement with customer ensures customer satisfaction is maintained throughout the project
- ❑ **Continual Improvement** - Initiatives such as PDCA, TQM, Six sigma
- ❑ **Management Responsibility** - Management must equip the Project Team with the resources needed to achieve quality, although success requires participation of all
- ❑ **Mutually beneficial partnership with suppliers** - A shift from traditional supplier management to partnership and cooperation model which can create value for each other and enhance joint responses to customer needs

# Quality Management

---

## Agile Considerations....

- ❑ Agile methods call for *frequent* quality and review steps built in throughout the project rather than toward the end of the project
- ❑ Recurring *retrospectives* regularly check on the effectiveness of the quality processes (New approaches are tried and in subsequent retrospectives these are reviewed for effectiveness and adjusted if required)
- ❑ Focus on small batches of work (iterations) uncovering inconsistencies and quality issues much early

# Resource Management

---

Some emerging trends in resource management include:

- ❑ **Resource management methods** – JIT, Lean management, Kaizen etc.
- ❑ **Emotional intelligence** – Research suggests that project teams that succeed in developing team EI are more effective and there is reduction in staff turnover
- ❑ **Self-organizing teams** – Popular in Agile methodology where the team functions with an absence of centralized control
- ❑ **Virtual teams/distributed teams** - The globalization of projects has promoted the need for virtual teams that work on the same project, but are not colocated at the same site

# Communication Management

---

Some emerging trends in project communications include:

- ❑ **Inclusion of stakeholders in project reviews** - An effective communication strategy requires regular and timely reviews of the stakeholder community, changes in its membership and attitudes
- ❑ **Inclusion of stakeholders in project meetings** – Stakeholders from outside of project (at times organization) are made to participate in project meetings.
- ❑ **Increased use of social computing**
- ❑ **Multifaceted approaches to communication**

In Agile methodologies

- ❑ There is a need to communicate evolving and emerging details more frequently and quickly
- ❑ Posting project artefacts' in a transparent fashion
- ❑ Holding regular stakeholder reviews

# Risk Management

---

Some emerging trends in project communications include:

- ❑ **Non-event risks** - There is an increasing recognition that non-event risks need to be identified and managed. There are two types of non-event based risks:
  - **Variability Risk:** Uncertainty exists about some key characteristics of a planned event or activity (like rate of interest may increase or decrease)
  - **Ambiguity Risk:** Uncertainty exists about what might happen in the future (like regulatory changes)
  
- ❑ **Project Resilience** – There is increased awareness regarding emergent risks (unknown unknowns). Emergent risks can be tackled through developing project resilience by
  - Provisioning for adequate schedule and cost contingencies for emergent risks
  - Flexible project processes that can cope with emergent risk
  - Empowered project team with agreed upon limits
  - Frequent review of early warning indicators



# Risk Management

---

- ❑ **Integrated risk management** – Projects form part of programs/portfolios. Project risks identified at the program level may be assigned to the Project Manager to manage at the project level. Likewise risks outside the scope of project identified by the Project Manager may be escalated to the program to manage. This can avoid duplication of efforts at various levels/multiple projects.

In high variability environment (**Agile**) there tends to be more uncertainty. Certain practices adopted in Agile methodologies to deal with uncertainty include:

- Frequent reviews of incremental work to accelerate knowledge sharing
- Risk is considered while selecting the scope of each iteration and managed during the iteration
- Reprioritization of backlog is performed based on better understanding of risk exposure

# Procurement management

---

Some emerging trends in project communications include:

- ❑ **Advance Tools** – Use of Online tools provide buyer/seller a single point for all information, submission of bids etc.
- ❑ **Changing contracting processes** – In mega projects in the past several years the use of internationally recognized standard contract forms is increasing in order to reduce problems and claims during execution
- ❑ **Logistics and supply chain management** – Especially in large engineering projects items with long lead times (1-2 years) need to be procured in advance even before detailed design has happened.
- **Trial engagements** - Some projects will engage several candidate sellers for initial deliverables and work products before making the full commitment to a larger portion of the project scope

# Procurement Management

---

Agile considerations...

- ❑ Larger projects may use an adaptive approach for some deliverables and a more stable approach for other parts. In such cases a MSA may be used for the overall engagement , with Adaptive work placed as an appendix
- ❑ In agile environments, specific sellers may be used to extend the team.

# Stakeholder Management

---

Trends and emerging practices in Stakeholder engagement include:

- ❑ Identifying all stakeholders, not just project team and customer
- ❑ Participation of project team in stakeholder engagement activities
- ❑ Reviewing stakeholder community regularly
- ❑ Involving most affected stakeholders of the project through the concept of co-creation

Agile considerations...

- ❑ Adaptive teams engage with stakeholders directly rather than going through layers of management
- ❑ Agile methods promote aggressive transparency. Inviting any stakeholders to project meetings and reviews and posting project artifacts in public spaces is to surface as quickly as possible any misalignment

---

# Role of Project Manager

# The Project Manager

The project manager is the person assigned by the performing organization to lead the team that is responsible for achieving the project objectives

## Skills needed in a Project Manager – *The PMI Talent Triangle®*

- **Technical project management** - The knowledge, skills, and behaviors related to specific domains of project, program, and portfolio management.
- **Leadership** - The knowledge, skills, and behaviors needed to guide, motivate, and direct a team, to help an organization achieve its business goals.
- **Strategic and business management** - The knowledge of and expertise in the industry and organization.

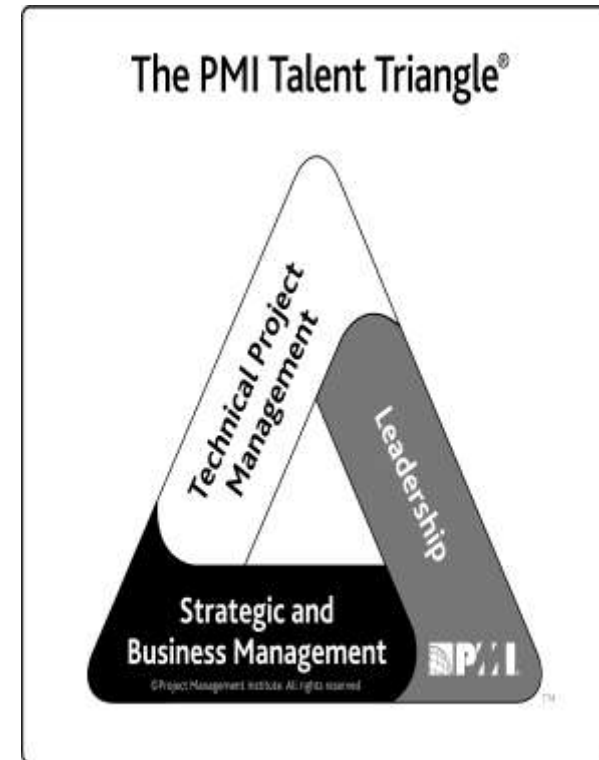


Figure 3-2 (guide). The PMI Talent Triangle® [11]

A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Sixth Edition, ©2017 Project Management Institute, Inc. All rights reserved.

# Leader vs. Manager

Management	Leadership
<b>Direct using positional power</b>	Guide, influence, and collaborate using relational power
<b>Maintain</b>	Develop
<b>Administrate</b>	Innovate
<b>Focus on systems and structure</b>	Focus on relationships with people
<b>Rely on control</b>	Inspire trust
<b>Focus on near-term goals</b>	Focus on long-range vision
<b>Ask how and when</b>	Ask what and why
<b>Focus on bottom line</b>	Focus on the horizon
<b>Accept status quo</b>	Challenge status quo
<b>Do things right</b>	Do the right things
<b>Focus on operational issues and problem solving</b>	Focus on vision, alignment, motivation, and inspiration

**Table 3-1 (Guide).** Team Management and Team Leadership Compared

*A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Sixth Edition.* ©2017 Project Management Institute, Inc. All rights reserved.

# Types of Power

---

Leadership and management are ultimately about being able to get things done. At the root of many of these skills and qualities is the ability to deal with politics

Some forms of Power include:

- Positional
- Informational
- Referent
- Personal or Charismatic
- Expert
- Reward
- Coercive



# Leadership Styles

---

Some of the most common leadership style includes:

- **Laissez-faire** - Allowing the team to make their own decisions and establish their own goals, also referred to as taking a hands-off style)
- **Servant leader** - Demonstrates commitment to serve and put other people first. Focuses on other people's growth, learning, development, autonomy, and well-being; concentrates on relationships, community and collaboration; leadership is secondary and emerges after service
- **Transactional** - Focus on goals, feedback, and accomplishment to determine rewards
- **Transformational** - Empowering followers through idealized attributes and behaviors, inspirational motivation, encouragement for innovation and creativity, and individual consideration
- **Charismatic** - Able to inspire; is high-energy, enthusiastic, self-confident; holds strong convictions
- **Interactional** - A combination of transactional, transformational, and charismatic

# Integration

---

The two facets of integration that a Project Manager needs to deal with are

- **Strategic Alignment** - Working with sponsor and key stakeholders to understand the strategic objectives and aligning project to these. Also means alignment of project to program, portfolio and business area objectives
- **Project Level** - Project managers are responsible for guiding the team to work together to focus on what is really essential at the project level. This is achieved through the integration of processes, knowledge, and people
- A Project Manager needs to perform integration at all levels including process, cognitive and context.

---

# Other Changes

- Business Documents
- New Organizational Structures

# Project Management Business Documents

---

- **Business Case** - The project business case is a documented economic feasibility study used to establish the validity of the benefits that is used as a basis for the authorization of further project management activities. This is used for go/no-go decision
- **Benefits Management Plan** - The project benefits management plan is the document that describes how and when the benefits of the project will be delivered, and describes the mechanisms that should be in place to measure those benefits

# Business Case

---

- **Business Need:**
  - What triggers the action?
  - Describes the business problem or opportunity
  - Stakeholders affected
- **Analysis of the situation:** Identification of organizational goals/objectives, root cause analysis of the problem, Gap analysis of capabilities needed, risks, etc. Analysis could use classifying criteria as required/ desired/optional
- **Options available:**
  - Do nothing
  - Do the minimum work possible
  - Do more than the minimum work possible
- **Recommendation:** A statement of the recommended option to pursue in the project and why
- **Evaluation:** Statement describing the plan for measuring benefits the project will deliver

# Benefits Management Plan

---

- **Target benefits:** List of all benefits tangible/non-tangible
- **Strategic alignment:** How well and which business strategy is the benefits aligned to
- **Timeframe :** When can the benefits be realized, arranged by phases or short term/long-term/on-going etc.
- **Benefits Owner:** Person accountable for the benefit
- **Metrics:** How will each benefit be measured
- **Assumptions:** Factors to be in place for the benefit to be realized
- **Risks:** Any threats to benefit realization

# New Organizational Structures

---

**Organic/Simple** – Flexible with people working side by side. All authority vested with owner/operator. Like start-ups

**Multi-divisional** – May replicate function for each division with little centralization. Similar to functional organization but de-centralized

**Hybrid** – Mix of other types

**Virtual (Network)** - The virtual organization exists within a network of alliances, using the Internet. Another modern structure, that contracts out any business function which can be done better or more cheaply. Managers in network structures spend most of their time coordinating and controlling external relations

# New Organizational Structures

	Organic/Simple	Multi-divisional	Virtual	Hybrid
Project Manager's Authority	Little or none	Little or none	Low to Moderate	Mixed
Resource Availability	Little or none	Little or none	Low to Moderate	Mixed
Budget Control	Owner or Operator	Functional Manager	Mixed	Mixed
Project Manager's role	Part-time	Part-time	Part-time/Full Time	Mixed



# Grouping Tools & Techniques

---

The *PMBOK® Guide - Sixth Edition* presents tools and techniques differently from previous editions. Where appropriate, this edition groups tools and techniques by their purpose

**Data gathering techniques:** Used to collect data and information from a variety of sources.

**Data analysis techniques:** Used to organize, assess, and evaluate data and information.

**Data representation techniques:** Used to show graphic representations or other methods used to convey data and information.

**Decision-making techniques:** Used to select a course of action from different alternatives.

**Communication skills:** Used to transfer information between stakeholders.

**Interpersonal and team skills:** Used to effectively lead and interact with team members and other stakeholders.

---

---

## Q&A

- ❑ On the 6<sup>th</sup> edition changes
- ❑ Doubts from 5<sup>th</sup> edition