

## Mapping the PMI Project Manager Role to Scrum

### Abstract:

The Project Management Institute (PMI) defined the Project Management Body of Knowledge (PMBOK) and codified the role of a project manager in a project. The PMBOK specifies the knowledge areas and the phases and activities of a project that are conducted during the life of a project. The PMBOK approach towards project management is very activity centric and thereby results in a number of processes that has various inputs and outputs. The PMI Project Manager manages the project by ensuring that these intermediate deliverables are planned and delivered at various stages of the project. The Agile Manifesto acknowledges the need for several of these deliverables but does not put as much emphasis on their creation and control. The Agile development process is geared towards people and interactions, and emphasizes the need for producing tangible results as soon as possible and as often as possible during the life of a project. The resulting role of an Agile project manager is thereby fundamentally different than that of a PMI Project Manager. This paper attempts to highlight the major differences between the PMI project manager and an Agile Project Manager. We will use the simplest and most common Agile methodology – Scrum, to present the differences. Additionally, we will provide a mapping of the PMI Knowledge Areas to Agile/Scrum practices that will also help to highlight the major differences in the two approaches. Finally, the paper will provide a mapping between a PMI Project Manager role and a Scrum Master, which would help people who are transitioning from a typical project management role to a more agile environment.

Preliminary analysis – this will be fleshed out with commentary and explaining if the paper is accepted.

<b>Knowledge Area</b>	<b>PMI</b>	<b>Agile/Scrum</b>
Integration Management	Develop Project Charter	The Product Owner is responsible for the product concept and business plan.
	Develop Project Management Plan	An initial plan is developed for funding purposes. Adaptive strategies are built into the plan to allow “change for free”. Visioning and Planning is done on an iterative basis with the Scrum Team and stakeholders to facilitate early delivery of maximum value.
	Direct and Manage Project Execution	The Product Owner is responsible for providing a clear, prioritized Product Backlog. The ScrumMaster is responsible for facilitating the Scrum process and team performance. The Team is responsible for continuous process improvement to maximize the velocity of software production.
	Monitor and Control Project Work	Facilitate, Serve, Lead, Collaborate
	Perform Integrated Change Control (via CCB and CC system)	Change control is managed throughout the project by the project team via the (ranked) product backlog, constant feedback during iteration and end of iteration demo and review

	Close Project or Phase	Retrospectives
Scope Management	Collect Requirements	Develop User Stories and Product Backlog
	Define Scope	Develop a Product Vision/Project Data Sheet/Product Roadmap
	Create WBS	Create a Feature Breakdown Structure for the release, showing features for each release. Further break it down into individual features (scenarios) per iteration.
	Verify Scope	Informal; via traceability tools Feature Acceptance
	Control Scope (Change Control)	Manage via product backlog and feedback (see Integration mgmt)
Time Management	Define Activities	
	Sequence Activities	
	Estimate Activity Resources	
	Estimate Activity Duration	There is no activity estimation, only estimates to complete a story
	Develop Schedule	An overall schedule is developed for the release and iterations in terms of the features being delivered in an iteration and a release
	Control Schedule	
Cost Management	Estimate Costs	Top-down estimation of the agile release and iteration, using Project Velocity, Ideal Days, Analogy, Expert Opinion or Disaggregation. (Estimation can be Velocity-driven or Commitment-driven) Then perform a bottom-up estimation of the iteration in question to validate or fine-tune the top-down estimates. Then refine the estimates further accounting for team changes, esoteric/new functionality and new technology. Add a Feature or Schedule buffer
	Determine Budget	Budget after doing the above
	Control Costs (Earned Value Management)	Burndown charts ???
Quality Management	Plan Quality	No formal Quality Management Plan Test Driven Development
	Perform Quality Assurance	Unit testing by developers Continuous Integration and Daily Build QA and User Acceptance at the end of each iteration Non-functional tests at the end of each iteration User Acceptance and Smoke tests at the end of release before deployment Test Automation at every stage (unit/integration/functional/non-functional/smoke) Committed QA resources from the beginning Reviews and Retrospectives

	Perform Quality Control	Provide Test metrics as part of the project reports on PMIS; do quality audits and log results Test early and often Feature Acceptance
Human Resource Management	Develop Human Resource Plan	Develop a staffing Plan based on Scope and Organizational Policies
	Acquire Project Team	Use the plan
	Develop Project Team	Using team building activities, performance reports, coaching, risk-reward systems, collocation, training and general management skills
	Manage Project Team	
Communication Management	Identify Stakeholders	
	Communication Planning (CMP)	Perform Stakeholder analysis to develop CMP (who, what, when and how)
	Information Distribution	PMIS for electronic delivery; use both push and pull techniques
	Manage Stakeholder Expectations	
	Performance Reporting	Provide reports on: Scope, Performance, Schedule, Cost, Quality
Risk Management	Risk Planning	Develop a Risk Management Plan Make sure that it is part of the PMIS, else make it so
	Risk Identification	Perform ad hoc SWOT Analysis, Checklists, Brainstorming Identify risks in daily scrums, iteration reviews/planning and release reviews/planning
	Quantitative/Qualitative Risk Analysis	Develop risk matrices (Prob. x Impact), risk rating of projects Customize the PMIS to obtain the rankings
	Risk Response Planning	Avoidance (change scope or resources), Mitigation (POC), Transfer (Outsource), Acceptance (Contingency plans)
	Monitor and Control Risks	
Procurement Management	Plan Procurements: Make or Buy analysis, SOW	
	Conduct Procurements	
	Administer Procurements	
	Close Procurements	

Agile	PMI	Agile/Scrum Practices
Release	Project Phases	Agile Releases Comprise of multiple iterations; can be external, internal or simply a forecast for the project Release Planning is optional but highly recommended
Iterations/ Sprints	Project Sub Phases	A subset of the product backlog is selected in an iteration planning meeting

Daily Scrums	Planned activities defined in a Project plan	Daily work is planned by the team members
Product Backlog	WBS	The product backlog items are estimated by the team members and are prioritized by the Product manager
Retrospectives	Project Closeout	Planned for each iteration, release and project