

## Week 6 – Strategic Project Management Tools and Methodologies

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## **6.1 Introduction**

In this sixth week of study, we focus on project management methodologies as a means of supporting the strategic goals of projects. It is important to view methodologies as tools at the disposal of teams that must decide on the appropriateness of methodologies based on the nature of each project and the particularities of project teams. That is, there is no one size fits all in regard to project management methodologies and as such a choice of methodology is inextricably linked to project strategy.

## **6.2 Learning Outcomes**

Upon the completion of this week of study, you will be able to:

1. Recognize the importance of deploying appropriate methodologies in projects depending on their characteristics.
2. Explore the role project management methodologies play in the strategic management of a project.
3. Understand the differences and similarities between project management methodologies.
4. Appreciate the inextricable links between project management methodologies and project success.

## **6.3 The Panorama of Project Management Methodologies**

It might be a little daunting to navigate the project management methodology environment. There are many different project approaches to pick from, regardless of whether one has a formal project management certification or learns to manage projects via experience. Additionally, they frequently have their own set of guidelines, principles, and abbreviations galore. Finding the

appropriate project management technique shouldn't be difficult. The management practices, tenets, and strategies covered in the following sections can be used by a team for their project.

### **6.3.1 Waterfall methodology**

Traditional methods of project management include the waterfall method. It follows a linear, sequential process for completing tasks and phases, and one part of the project must be finished before moving on to the next. Waterfall project management stages typically go in the following order: Requirements, Analysis, Design, Build, Test, Deployment, and Maintenance. A true waterfall flows in one direction, so does progress. But just like a genuine waterfall, this may swiftly become hazardous. Since every step is planned out in advance, there is a lot of space for mistake if expectations and reality do not match. Once a level is finished, there is no going back to it (Heagney, 2022).

### **6.3.2 Agile methodology**

Growing unhappiness with the traditional project management approaches' linear approach led to the development of the agile project management methodology. The focus started to turn to more iterative models that allowed teams to adjust their project as needed during the process instead of needing to wait until the end to evaluate and amend because of the constraints of project management approaches that could not change with a project as it proceeded.

Scrum, kanban, and lean are just a few of the particular sub-frameworks and approaches that the idea of agile project management has inspired. What do they all share, though? Agile project management approaches' guiding concepts are:

- It is collaborative.
- It is fast.
- It is open to data-driven change.

Because of this, agile project management approaches often feature brief work periods with regular testing, appraisal, and modification. All of the work that needs to be done is often added to a backlog that teams may work through in each phase or cycle. Project managers or product owners prioritize the backlog so that teams know what to concentrate on first (Heagney, 2022).

### **6.3.3 Scrum methodology**

A type of agile project management is scrum. Instead of considering it a project management approach in and of itself, think of it rather as a framework. Work is divided into brief periods called "sprints," which typically span between one and two weeks, in Scrum. For each sprint iteration, work is pulled from the backlog (see: Agile project management, above). Small teams work under the direction of a Scrum Master (project manager) for the duration of the sprint, at the conclusion of which time they evaluate their progress in a "sprint retrospective" and make any required adjustments before beginning the following sprint (Heagney, 2022).

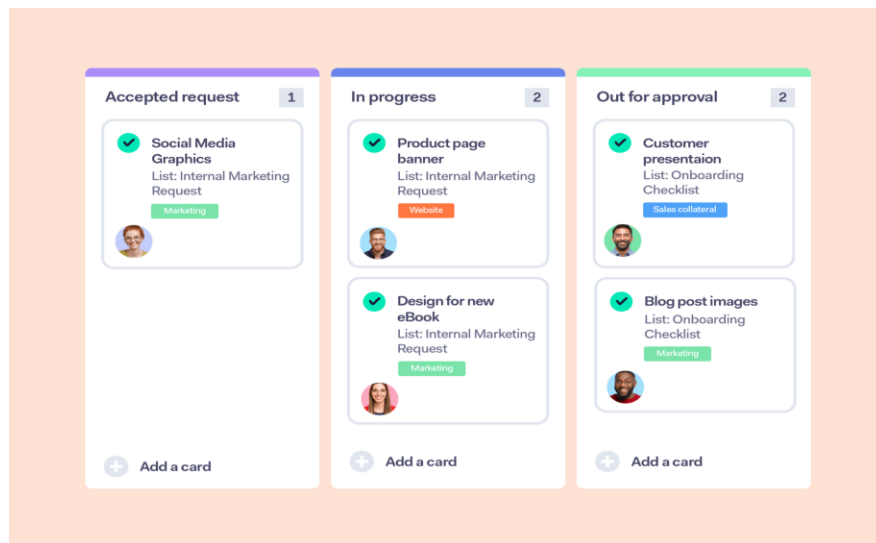
### **6.3.4 Kanban methodology**

Another technique used in agile project management is kanban. The term "kanban," which has its roots in the industrial sector, now refers to a framework in which tasks are graphically represented as they move along columns on a Kanban board. As the team is able, work is continuously taken from the predetermined backlog and transferred through the columns on the board, each of which represents a stage of the procedure.

Kanban is excellent for providing everyone with a quick visual snapshot of where each item of work is at any given moment. Additionally, it enables you to identify areas where bottlenecks might potentially develop. For instance, if you find that one of your columns is becoming clogged, you'll be aware that that part of your operation is in danger.

Work-in-progress (WIP) restrictions are frequently utilized as a component of agile project management methodologies. Work-in-progress restrictions limit the number of tasks that are active

at any given moment, therefore you are only allowed to have a limited number of tasks in each column (or on the board overall). This keeps your staff from dividing their attention among too many duties and guarantees that they can perform more effectively by concentrating on each one separately.



**Figure 1:** Kanban Board View (<https://www.teamwork.com/solutions/project-planning/>)

### 6.3.5 Scrumban methodology

With kanban's eyes and scrum's nose, scrumban is a hybrid agile project management technique. In contrast to "conventional" scrum frameworks, which require teams to choose which item from the backlog to work on in each sprint at the beginning, scrumban allows teams to constantly "pull" from the backlog based on their capacity (like they would in a kanban framework) (Heagney, 2022).

### 6.3.6 eXtreme programming (XP) methodology

Another type of agile project management that was created for software development is the eXtreme Programming (XP) technique. It places a strong emphasis on cooperation and collaboration between management, clients, and developers, with teams taking care of themselves. Teams should adhere to a clear set of guidelines based on its five core values:

simplicity, communication (face-to-face interaction is recommended), feedback, respect, and bravery (Heagney, 2022).

### **6.3.7. Adaptive project framework (APF) methodology**

A sort of agile project management approach that was created with the inevitability of change in mind is the adaptive project framework (APF), sometimes referred to as adaptive project management (APM). The adaptive project framework is aware that, in the words of John Steinbeck, even the best-laid plans of mice and men frequently fail. The ability of teams to adjust to change is therefore a core need of APF. Teams must thus make an effort to foresee risks and be ready for the unexpected by employing adaptive project framework methodologies. They must be aware of the fact that important factors are always changing and be able to continually reevaluate outcomes and choices while keeping these shifting factors in mind. This calls for extensive communication with all stakeholders and the ability to work collaboratively (McCann & Selsky, 2012).

### **6.3.8. Lean methodology**

Another project management approach with industrial roots is lean (and specifically the Toyota Production System). To maximize value and reduce waste, you must integrate lean principles into your project management processes. This currently applies to various wasteful activities in the project management process, but it initially pertained to eliminating physical waste in the manufacturing process. The 3Ms, or muda, mura, and muri, are these.

*Muda* (wastefulness) uses resources without providing the client with additional value.

*Mura* (unevenness) happens when an area of your business has overproduction, which puts all of your other areas out of balance and results in excess inventory (wasted resources!) or inefficient operations (also wasted resources).

*Muri* (overburden) occurs when there is too much strain on resources such as equipment and people, which can often lead to breakdowns, in both machines and humans.

Using the key principles of lean, a project manager can reduce these types of waste to create more efficient workflows (McCann & Selsky, 2012).

### **6.3.9 Critical path method**

Your project's important activities and their dependencies may be identified and scheduled using the critical path approach, sometimes referred to as critical path analysis.

That implies that you must:

1. List all the steps you must take to complete in order to complete your job.
2. Determine the timeframes for each of those tasks (bearing in mind that certain tasks will need to be completed before others can be started)
3. Schedule the "critical path" you will need to follow to complete the project as rapidly as possible without skipping any essential phases using all of the information you've gathered.

A project's timeline will be determined by the longest string of crucial activities, which we refer to as the critical path. There will be checkpoints along the way that you must reach to know when one set of duties (or phase) is finished and you can go on to the next. Depending on the complexity of your project, there are many different ways to illustrate the critical path, including flow diagrams and Gantt charts (McCann & Selsky, 2012).

### **6.3.10. Critical chain project management**

The critical chain project management (CCPM) technique expands on the critical path method (CPM). The critical path technique specifies the amount of time required to complete each key action from the start of the project to the finish, but when it comes time to actually implement it, it may frequently be, well, impractical. By giving your project's human components, such as delays and resource problems, a little extra time, critical chain project management handles such problems. In critical chain project management, you have a few built-in buffers that your critical chain can utilize without causing the rest of the project to fall off course. This prevents your entire project from having to be derailed just because life happens (McCann & Selsky, 2012).

### **6.3.11 New product introduction (NPI)**

When introducing a new product, a new product introduction is an excellent project management approach to use. The new product introduction process, sometimes referred to as new product development (NPD), includes all the steps necessary to identify, create, and launch a new (or upgraded) product. The project tracks a single product from conception to completion. The stages of this process, known as a stage-gate process, might differ from one organization to the next but often contain the following:

1. Specifying the product and the project's parameters
2. Assessing the viability
3. Creating the prototype.
4. Examining and analyzing the prototype to confirm its validity
5. Expanding the product's production.
6. Assessing the product's market performance after the introduction

An organization's leadership, product managers, marketing, and other departments all have a role in a successful new product launch, therefore there is a lot of cross-functional cooperation and communication required (Daft, 2010).

### **6.3.12 Six Sigma**

Six Sigma is a technique for process improvement that places a strong focus on maintaining output consistency and flawless quality. Six Sigma comes in a variety of flavors, including Lean Six Sigma and Agile Sigma, but at its core, it is a business technique that strives to remove errors and minimize variation via the use of its established procedures.

Existing processes may be optimized and improved, and new processes can be developed using Six Sigma techniques. The Six Sigma DMAIC process, which stands for the project methodology phases of Define, Measure, Analyze, Improve, and Control, may be used to enhance business processes. You may utilize the Six Sigma DMADV process—Define, Measure, Analyze, Design, and Verify—to develop new procedures or goods. Six Sigma can be applied together with other



project management methodologies, like Lean and Agile as it more a set of principles and techniques rather than a project management methodology in itself (McCann & Selsky, 2012).

### **6.3.13 PMI's PMBOK**

The Project Management Book of Knowledge (PMBOK) published by the Project Management Institute (PMI) is not a project management technique in and of itself. However, it is a best practices manual that serves as the foundation for the Project Management Professional (PMP) certification, one of the most prestigious awards in project management. As a result, you may utilize the PMBOK as an industry-recognized set of guiding principles to make sure that your projects, which may involve all kinds of teams and organizations, adhere to best practices and satisfy the high standards defined by the PMI (<https://www.pmi.org>).

### **6.3.14 PRINCE2 methodology**

A project management approach and certification called PRINCE2 (PRojects IN Controlled Environments) attempts to provide project managers with knowledge of best practices and procedures. It is a fantastic option for project managers wishing to obtain both a methodological foundation and a qualification because, unlike the PMP certification, it does not call for a number of prerequisites. PRINCE2 is an independent methodology, in contrast to the PMP. It is based on seven guiding principles, and while using PRINCE2, a project manager must follow these principles in order to choose which seven procedures to apply to each project (<https://www.prince2.com>).

### **6.3.15 Rapid application development (RAD) methodology**

A sort of agile project management approach called rapid application development (RAD) promises to accelerate software development. It favors user feedback over rigid planning and requirements documentation by using fast prototype releases and iterations to obtain feedback in a short amount of time (McCann & Selsky, 2012).

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