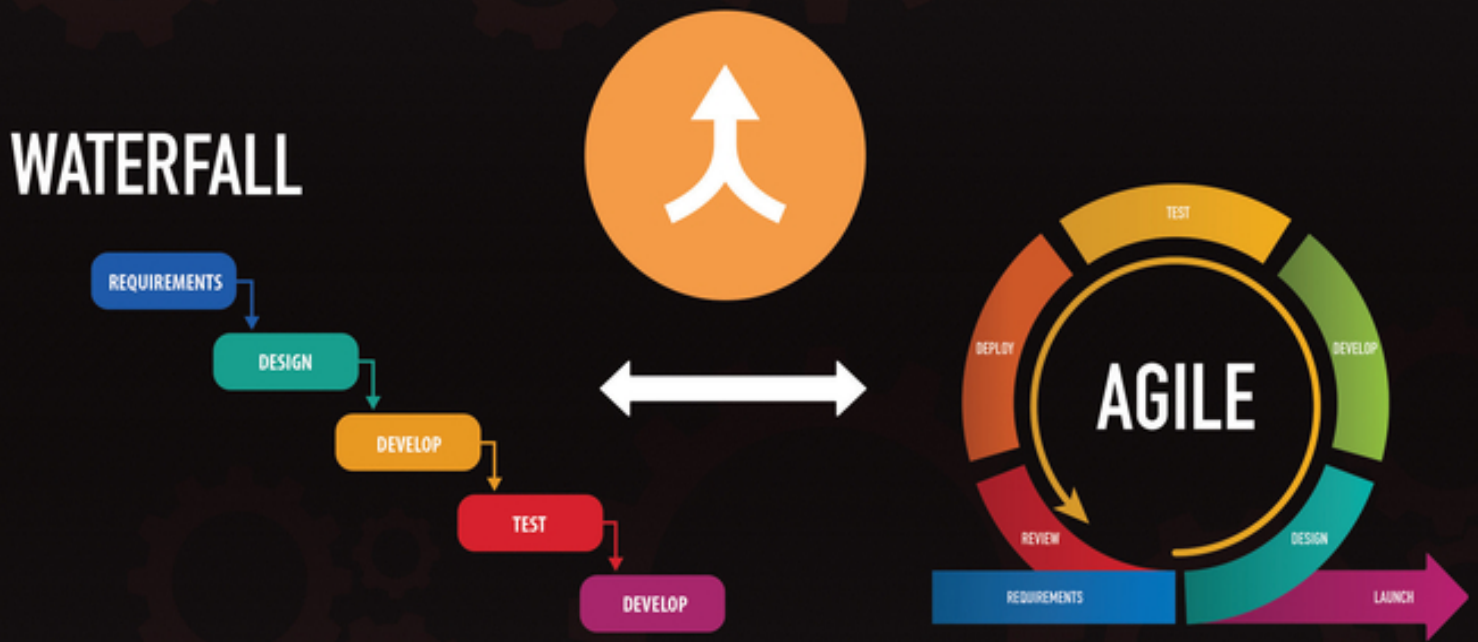
Hybrid Project Management

Cynthia Snyder Dionisio



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How do you express gratitude for all the people over 25+ years who have contributed to your knowledge and skills in project management? In my years of practicing, teaching, and writing about project management I have come across thousands of practitioners and professionals. While there are far too many to note, I would be remiss if I did not acknowledge a few people who have helped me in my career and with this book.

I have learned more about project management by teaching than I did by practicing. It is in the teaching that I have improved my own skills. Thus, I am very grateful for the thousands of students who allowed me to contribute to their knowledge and careers, as it has helped me become a better project leader and course facilitator.

Of course, I could not reach students without the organizations that hired me to teach. In particular I would like to acknowledge my friend and colleague Teidi Tucker at Management Concepts for a personal and professional relationship that has spanned over 20 years. You are such a delight!

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It would not be possible to thrive in this profession without the support of my loving family. Pad, Mombat, and Bunny, you are all the best and always in my heart.

Introduction

Project managers make progress, change, new ideas, new technologies, and breakthroughs possible. We are a part of every profession and have proven our value through our leadership, ingenuity, courage, and discipline. We have been delivering value to organizations, governments, military, and nonprofits since before there was a profession called project management.

In the 1980s and 1990s project management was primarily linear and process driven. There was a heavy emphasis on planning, managing, and controlling project work. We were process driven and documentation heavy. Staying true to the plan, limiting scope changes, and adhering to baselines were the primary means by which we executed and controlled our projects. This approach has come to be known as a waterfall approach because we managed our projects one phase at a time in a linear fashion.

By the late 1990s it was becoming clear that this approach worked in some situations, such as building a bridge, but was a recipe for failure in other situations, such as developing software. In 2001 a group of 17 software developers met at a mountain resort and came up with a new approach that was based on four values and 12 principles. They recorded the values and principles in a document called the Agile Manifesto.

The Agile Manifesto moved away from heavy up-front planning and embraced evolving scope, collaborative working relationships, and servant leadership. The practices, mindset, and overall approach to creating deliverables was 180 degrees from the waterfall methods.

As with most new approaches, some people embraced the practices and mindsets wholeheartedly. In fact, some practitioners became rather evangelical about the Agile mindset and were termed Agilistas. Other practitioners were more along the lines of “Agile in name only.” In other words, they used the Agile terminology but did not fully embrace the mindset. Today the majority of the Agile practitioners conform to Agile practices but perhaps aren't as fanatical about their implementation as the Agilistas.

Twenty years after the Agile Manifesto was first developed, there are many practitioners who find value in the waterfall approach and the Agile approach. These practitioners recognize there are many variables that determine which method to use and that there is rarely a need to be on one end of the spectrum or another. They see significant value in embracing both approaches, using waterfall techniques for some deliverables and Agile techniques for other deliverables. We call this “hybrid project management.”

Hybrid project management is about being flexible enough to assess the project, deliverables, environment, and stakeholders to determine the best means to achieve the intended outcomes. Many hybrid projects use a waterfall framework at a high level and apply Agile approaches to specific deliverables as appropriate. It is my opinion that while the servant leadership practice that is a hallmark of Agile is not fully utilized in all hybrid projects, the practice of engagement, collaboration, and facilitation is more prevalent than the command-and-control perspective that was common in the 1980s and 1990s. Thus, we see the industry moving away from the far ends of the project management spectrum and more toward a practice that is inclusive of the best practices from each approach.

This book is intended to present a variety of ways to deliver projects. Whether you are a new practitioner or someone

with decades of experience, it is my hope that you will find some new ways of practicing our discipline and discover some new techniques you can apply on your projects.

1
Introducing Project Management

As professional project managers it is no longer enough to deliver results that conform to requirements and are on time and on budget. Our role in driving change and transformation, developing new products and updating existing products, creating new technologies and finding ever-better ways of doing things has evolved. Now we need to be more business savvy, market responsive, and aware of how our profession is changing and progressing.

Value: Something of worth or importance.

Deliverable: A component or subcomponent of a product or service. A deliverable can be stand alone, or part of a larger deliverable.

One of the most significant changes in our profession is the recognition that as professionals we must understand and embrace different ways of delivering value. After all, the whole purpose of projects is to bring value to stakeholders, whether that value is via a new product, a new service, or more efficient processes. Different project deliverables require different approaches and techniques. To excel in our role, we need to know our options for delivering value and understand the variables that determine the best fit for each deliverable.

In this chapter we will describe four ways of creating deliverables and define terms associated with each approach. Next, we will identify the variables you need to consider in order to select the best development approach for each deliverable in your project.

THE SPECTRUM OF DEVELOPMENT APPROACHES

A development approach refers to how the project team creates and evolves deliverables. Some development approaches emphasize understanding all the requirements before designing a solution and then creating the deliverables based on the solution design. Other development approaches start with a bare-bones deliverable and evolve the solution based on feedback. They are different approaches to creating project deliverables.

> **Development approach:** The means by which the project team will create and evolve deliverables.

> **Warning!** A development approach is not a life cycle. We will cover life cycles in Chapter 5.

In this chapter we will describe four development approaches:

- Waterfall;
- Incremental;
- Iterative; and
- Agile.

A waterfall development approach is what we call predictive. In other words, we like to be able to predict the schedule and budget based on stable scope. Incremental, iterative, and Agile development approaches are adaptive, which means they are flexible enough to allow changes in requirements and scope.

Adaptive: An approach for creating deliverables that allows for uncertain or changing requirements.

Predictive: An approach for creating deliverables that seeks to define the scope, schedule, and budget toward the beginning of the project and minimize change throughout the project.

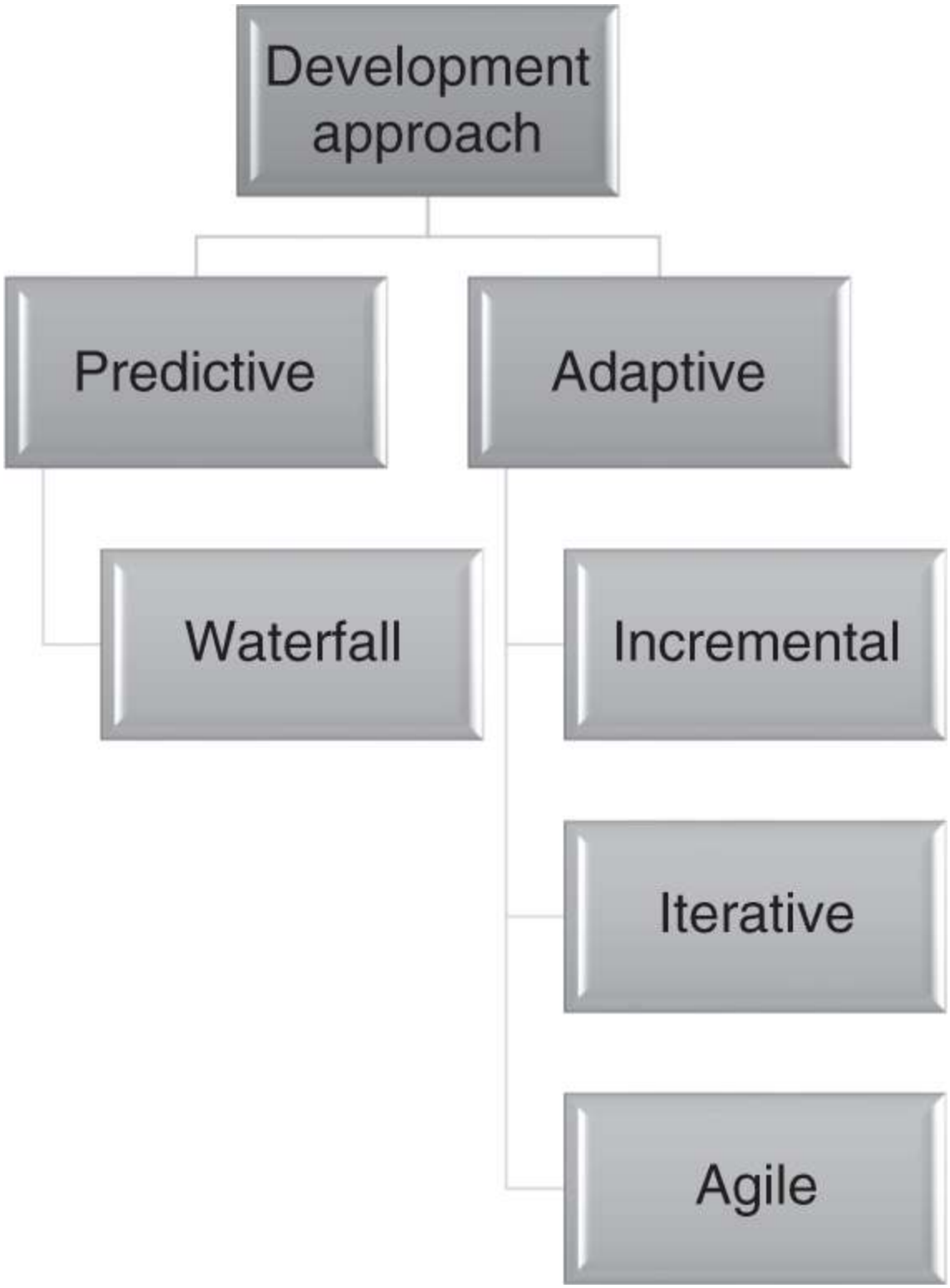


FIGURE 1-1 Development approach.

Waterfall

A waterfall development approach is predictive in nature. In other words, it starts with well-defined scope, which the project team then progressively elaborates into greater levels of detail. The work is then sequenced, duration and cost estimates are developed, and eventually a baseline is set. Throughout the project, progress will be measured against the baselines. With a waterfall approach the project manager endeavors to keep change to a minimum and follow the project plan.

> **Waterfall:** A predictive approach for creating deliverables that follows a linear pattern of completing one phase of work before starting the next one.

Figure 1-2 shows a life cycle for a light rail project that would use a waterfall approach. You can see how one phase completes before the next one begins, and the shape of the graphic looks like a waterfall. In the Environmental Impact Analysis phase, studies on expected site impact, materials analysis, geological surveys, life cycle assessment, and similar work would be conducted. In the Plan phase, detailed resource, budget, schedule, communication, risk, and other plans would be developed. At the end of the Plan phase those plans would be baselined. The Engineering phase would be comprised of blueprints, architecture, modeling, and other similar work to ensure the designs meet the needs, are compliant with regulatory requirements, and are minimally disruptive to the environment. The Construction phase is where all the physical work is carried out. It is the most visible, uses the most budget, and likely takes the longest. Progress in the Engineering and Construction phases would be compared to the baselined plans to ensure the project stays on schedule and on budget.

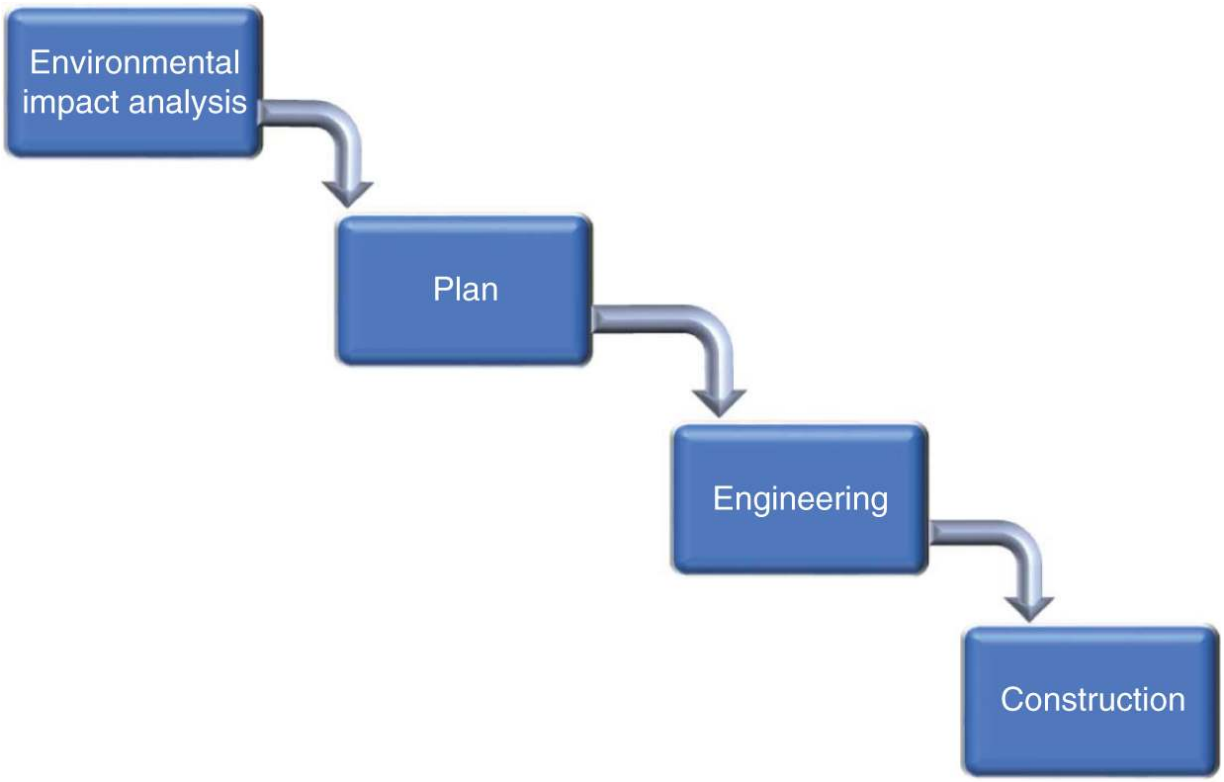


FIGURE 1-2 Waterfall approach.

A waterfall approach is best when the requirements can be defined up front and when the scope of the project is not expected to change. This approach is often used for projects with large budgets, where detailed planning can help reduce uncertainty and risks. Projects that have high-risk deliverables or have significant regulatory oversight are also a good fit for a waterfall approach.

Types of projects that use a waterfall approach include:

- Construction;
- Defense projects such as building a new aircraft, ship, or tank;
- Medical devices; and
- Infrastructure including roads, bridges, or mass transit.

Iterative

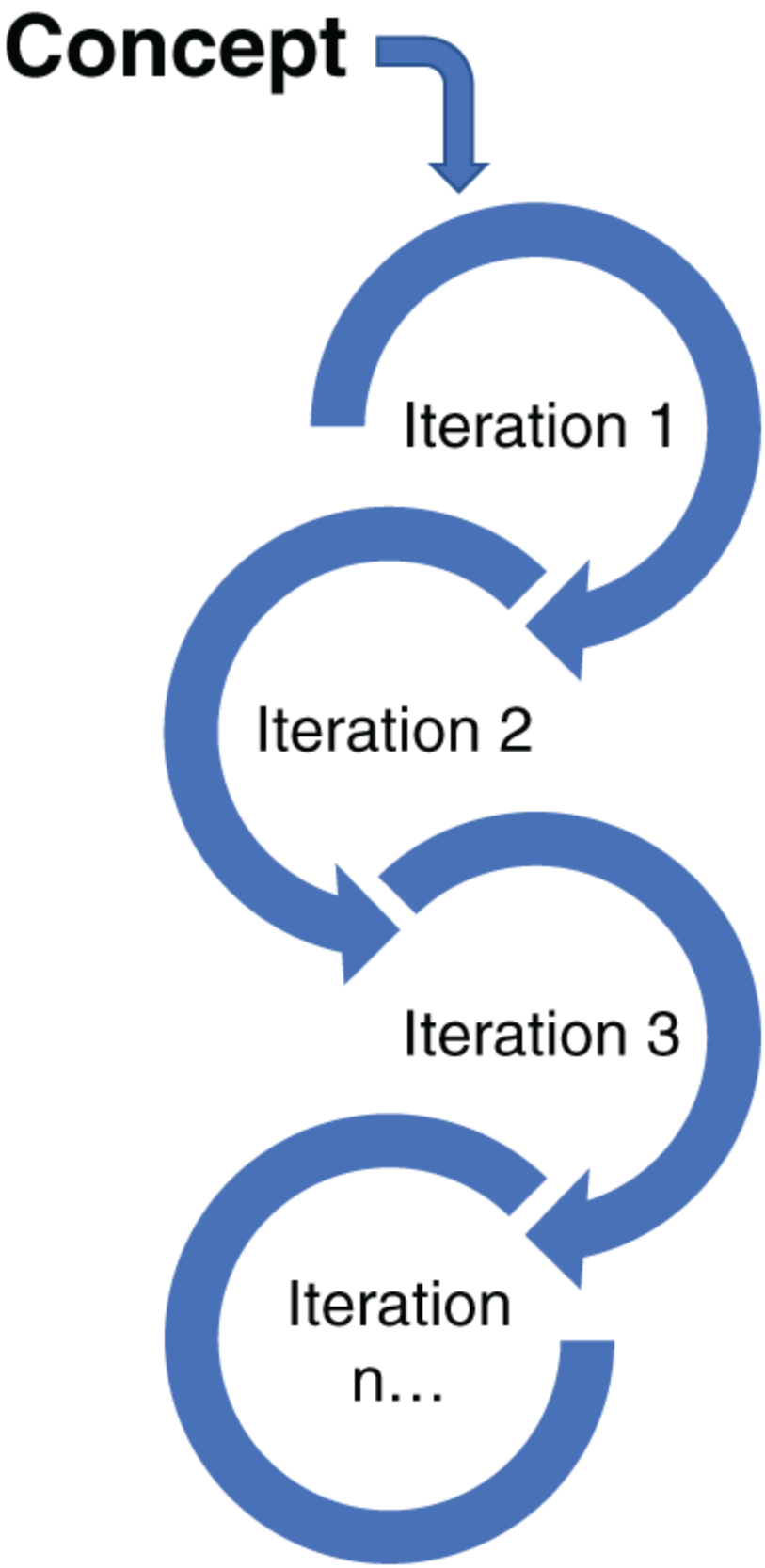
An iterative approach is adaptive in nature. It is used when there is a high-level understanding of the desired outcome, but the best way to achieve that outcome is not defined. The project team uses a series of iterations to get clarity on the best method to deliver results.

> **Iterative:** An adaptive development approach that begins with delivering something simple and then adapts based on input and feedback.
>
> **Iteration:** A brief, set time interval in a project where the team performs work. Also known as a timebox or sprint.

An iterative approach could be used for designing a new multipurpose bicycle. It might start with an idea on a drawing board that can be shown to key stakeholders for feedback. Once the stakeholders are happy with the design, the team may use cheap materials to build a cheap frame mock-up that people can look at and sit on to provide more feedback. Once the frame shape is settled, the next iterations can focus on finding the right materials. The right materials affect the ride, price, weight, handling, and expected life span.

When the frame size and materials are decided on, the team can conduct iterations to determine the best gears, brakes, and other componentry. Only when the team has incorporated all the relevant feedback will they finalize the design, materials, and specifications so they can go into production.

Figure 1-3 shows a generic example of an iterative approach. Notice that each iteration provides information to the next iteration. The number of iterations depends on the feedback and when the decision makers agree that the final iteration will meet the objectives of the project.


Concept
Iteration 1
Iteration 2
Iteration 3
Iteration
n…