Types of Methodologies

From Agile methodology to Waterfall methodology and everything in between, the realm of project management and its methods are there for the taking. Project management experts everywhere will argue one methodology is better than the other depending upon types and sizes of projects. Is that really true or can you utilize any methodology for any project?

For this project management methodology comparison, we will cover the following:

- Agile Methodology and Waterfall Methodology
- Change Management
- Risk Management
- Quality Management
- PRINCE2®
- Six Sigma/Lean Six Sigma

Certainly some of the methods listed here are obviously comparable, Agile/Waterfall and Six Sigma/Lean Six Sigma. Still, experts hold seminars, debates, and discussions of great length on whether the United Kingdom’s PRINCE2 or Agile are the same or vastly different.

For the project manager and decision maker, however, is one methodology better than the other or can you get to a successful completion of your project using any one of them?

Agile and Waterfall Methodology

Though Agile was first utilized in IT projects, the bottom line on Agile methodology is using the best process through empowered teams, customer involvement, and the ability to analyze and quickly control changes to the project scope at inception and throughout the lifecycle of the project.

But, what does that mean? Basically, using Agile management in a project helps you define the project clearly with stakeholders and team input, sprints or iterations assigned to a small groups, effective project monitoring, immediate change instead of constant review, along with constant communication throughout the project. Simply put, Agile cuts project bottlenecks.

Using the Waterfall process in projects means once the project scope is defined, you’ll be assigning teams with clearly set goals and timelines. Each team handles different aspects or modules of the project and this method is typically used in software development. Once a module is deemed usable, it is passed to the next team phase.

The completion of a Waterfall project literally lands in the client’s lap. Critics of the sequenced based Waterfall method claim it doesn’t allow for change control if something is wrong during
the project process. If team A passes to team B and then to team C and team C finds a problem from team A, it’s hard to go back. Still, because of its linear approach, some prefer the Waterfall method if good client input is achieved early on.

In both the Agile and Waterfall methods, an iteration or module is not passed on until it’s done and experts will tell you in Agile and Waterfall that "done means done." The true difference between the two is that in Agile projects, evaluation of a module is present before it is passed along. In Waterfall, there is no stopping and the project flow passes along and along with hopes of a good outcome. Many project managers have their druthers about which is best. However, in Waterfall, if end-testing doesn’t go well, you better think about starting all over again.

**Change Management Methodology**

Change Management Methodology helps a company prepare for planned and unplanned changes. This change can be forced upon an organization from both internal or external factors. In this methodology, good change control processes must be set if the need for change arises in a project.

Essential elements include who can offer change ideas and how change will be dealt with based on both stakeholder, team, and manager input. Using change management allows for portions of a project to stop if a problem is identified, the change is handled through the change control process and the project continues. Some experts boast that change management offers successful outcomes every time. However, with change management comes resistance to change. The resistance of a work environment can harm a project if change is not explained, agreed to or understood.

**Risk Management Methodology**

The risk management methodology is described as identifying risks, measuring their potential for harm, and creating plans to deal with the threats. Risks are identified as being operational, financial, strategic or perimeter and then prioritized. Risk treatment plans are utilized to help prioritization of risks. Managers use the risk register to analyze how a risk will affect the project or the process. Once risks are identified, who will handle risks and risk controls are put in place. Risk management also includes the realization that some risks are acceptable and should not deter the project. Finally, at project end, a risk analysis is performed to see how well the project flowed.

**Quality Management Methodology and PMBOK**

Quality Management has two goals, ensuring a quality end-product and ensuring that all of the process involved during the project lifecycle are carried out efficiently. The Project Management Body of Knowledge or PMBOK offers methods on almost all the methodologies mentioned here including quality management. PMBOK recommends using quality planning, assurance, and control to complete a project successfully. A manager may think of an efficiently run assembly line before implementing quality management practices. Simply put, quality run projects produce quality outcomes, meaning not only an efficient one but one that is seamless from beginning to end. Most experts believe the practices of quality management and total quality management (TQM) go hand in hand.
PRINCE2®

According to the official PRINCE2 website, this management methodology developed in the UK includes six variables, “costs, timescales, quality, scope, risk, and benefits.” PRINCE2 is an acronym for PRowects IN Controlled Environments. It could be argued that this method combines all practices offered through PMBOK including a consistent approach, focus on business justification, control through review, stakeholder involvement from beginning to end, and continuous improvement.

PRINCE2 roles are very specific in design including the project management, users, customers, and suppliers. With PRINCE2, however, teams report to the project manager who in turn, before risks, problems, or changes occur is required to report to a compilation of users, customers, and suppliers for effective decision-making outcomes.

Six Sigma / Lean Six Sigma Methodologies

Perhaps Agile management developed through Six Sigma and Lean Six Sigma and those who believe so adamantly in the Agile method will tell you they are never going back. The Six Sigma process is defined as a statistical concept that measures a process in terms of defects. Achieving Six Sigma means your processes are delivering only 3.4 defects per million opportunities or DMPO. Six Sigma started with two phases, the DMAIC phase and the DMADV phase. The DMAIC phase or defining, measuring, analyzing, improving, and controlling are first used to keep projects within specification guidelines. Next comes the DMADV phase or defining, measuring, analyzing, designing, and verifying. In this phase project elements have completed the DMAIC phase and are perfected.

With Lean Six Sigma, the process is shorter by combining the two phases to realize results quicker. While quick doesn’t mean getting to the project deadline faster, it does mean by utilizing Lean Six Sigma, your processes within your phases are streamlined for quality.

Project Management Methodologies: Which Is Better?

This was the inevitable purpose of this article was it not? To compare methodologies? Some methodologies were first implemented for IT purposes where others were considered best to provide quality outcomes, defects perfection, and recognizing and prioritizing risks and change. The United Kingdom’s PRINCE2 may argue it combines all of these into one perfect project management methodology.

The simple answer is that no methodology can fit all purposes, but is that really true? First what does a project mean?

According to my Random House Webster’s College Dictionary, a project is, “something that is planned or devised or an important undertaking, especially one involving considerable expense, personnel, and equipment.” Project Management Basics defines a project as something that “will bring about change in some fashion,” or something, “that has a defined starting point (A) and reaches a desired goal (B)."

If we take those definitions of a project, couldn’t a flower garden be created by using Agile management? Or risk or quality management? Sure it could be. When comparing project management methodologies, choosing one may come down to your teams and what sort of mindset they have or what training they’ve incurred. If we take the basics needed for a garden, however,
a Waterfall approach may not be your best bet, especially in the case of the end-product. Waterfall could be used for the flower garden if change management was included in the process, however.

In the end, it is still difficult for a project manager to choose the right methodology. A forethought may be which methodology are you most familiar with and have had success with? There will always be debaters on which methodology is more effective and which has the best track method. Perhaps, when you look at project management methodology comparisons, it takes a blend of all of them to get from point A to point B.

Sources

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