

PSM vs WATERFALL vs AGILE

THE ADVANTAGE OF THE PROJECT SUCCESS METHOD OVER TRADITIONAL WATERFALL AND AGILE METHODOLOGIES

Introduction

The Agile methodologies for planning, managing, and executing projects have now been utilized for approximately 18 years, although certain components now lumped under the Agile heading have been in use for a far longer period of time.

The Agile Manifesto (defining "Agile") was developed in early 2001 by a 16-20 member group of software developers, and was a pushback against what they saw as flawed planning/controlling/execution sequences that they simply grouped together and referred to as the "waterfall" process. The term "waterfall" simply referred to the look of Gantt charts, which, when activities were sorted by early start and/or early finish dates, showed graphically as a cascading list of tasks over time, resembling a waterfall. The Agile Manifesto was comprised of four Value statements and twelve Guiding Principles as shown in the following sections.

Upon closer review of the various justifications for leaving "waterfall" and turning to "Agile", most had their roots either in the **improper** use of standard Project Management methodologies, or in **poor** Management/Leadership practices in general. Both of these "reasons" for poor performance are a function of incomplete or missing training for those in technical leadership positions, not failures of the processes themselves. Unfortunately, Agile implementations suffer from the same problems today.

The Project Success MethodSM has been taught by Project Success, Inc. (PSI) since 1983. It has its roots in the Critical Path Method, which was developed simultaneously by DuPont, working with Remington Rand, while Booz Allen Hamilton was collaborating with the US Navy in the late 1950s. The Project Success Method (PSM) employs a consensus-building approach that promotes team ownership of the project, the collaborative development of actionable project plans to which the team is committed and a proactive project control process that - while structured is not rigid or inflexible - promotes mutual accountability and support within the team.

As Agile grows in popularity, expanding far beyond its root in software development, it's proponents paint traditional "waterfall" project management as rigid, inflexible and unresponsive to changing customer requirements. As a rebuttal, the below compares how PSM either aligns or conflicts with each Value or Principle of Agile. Each Value and Principle is stated in **Bold**, followed by the author's interpretation in *italics*. Finally, the PSM position on each statement is listed in red.

THE FOUR VALUES OF THE AGILE MANIFESTO

1 WE VALUE INDIVIDUALS AND INTERACTIONS OVER PROCESSES AND TOOLS

Since our founding in 1983, PSI and PSM has focused on an individual Team Member's definition of the processes that they follow, as well as how their activities interact with other Team Members' activities.

2 WE VALUE WORKING SOFTWARE OVER COMPREHENSIVE DOCUMENTATION

PSM values completed deliverables over documentation, although documentation may in fact be a key deliverable in some cases.

3 WE VALUE CUSTOMER COLLABORATION OVER CONTRACT NEGOTIATION

PSM focuses on careful and complete discussions of Scope and Objectives between the Team Members and the Customer, and the concise documentation of such discussions' results.

4 WE VALUE RESPONDING TO CHANGE OVER FOLLOWING A PLAN

PSM positively addresses the concept of expecting change, and the need for subsequent revising of plans to evaluate and assess the effects of such changes. Not having a plan because "it will change" is a bad management decision just as much as failing to modify the existing plan to reflect agreed upon scope changes is.



THE TWELVE AGILE MANIFESTO PRINCIPLES

1 OUR HIGHEST PRIORITY IS TO SATISFY THE CUSTOMER THROUGH EARLY AND CONTINUOUS DELIVERY OF VALUABLE SOFTWARE

Customers are happier when they receive working software at regular intervals, rather than waiting extended periods of time between releases.

PSM teaches that customers appreciate tangible demonstrations/proof of both current progress and projected future success.

2 WELCOME CHANGING REQUIREMENTS EVEN LATE IN DEVELOPMENT. AGILE PROCESSES HARNESS CHANGE FOR THE CUSTOMER'S COMPETITIVE ADVANTAGE.

The flexibility to change requirements or features, even if late in development, is important to the customer.

As stated in the "Values" responses above, PSM has always positively addressed the concept of expecting change, and the need for subsequent revising of plans to evaluate and assess the effects of such changes. It is just as important to the customer that they understand the impact of the requested change with regards to time and cost. The ability to clearly articulate the trade-off to the customer is crucial to the overall success of the project, particularly, if the customer has to meet delivery date promises they have made to their customers.

The ability to avoid delays when a requirement or feature changes is not merely a function of the planning methodology, but primarily a matter of the technical skills and personal motivation levels possessed by the Teams' members.

3 DELIVER WORKING SOFTWARE FREQUENTLY, FROM A COUPLE OF WEEKS TO A COUPLE OF MONTHS, WITH A PREFERENCE TO THE SHORTER TIMESCALE.

Agile accommodates this principle by having the team operate in software sprints, or iterations, that ensure regular delivery of working software. Sprints can be as short as 5 days or 10 days but should be the same duration throughout the project.

PSM emphasizes completion of deliverables and sub-deliverables on time throughout the life of the program. Tracking performance on "Activities" on a regular basis ensures that all activities are being performed properly. We advocate that near-term activities (the ones that you know the most about) be planned with durations of five to ten working days, which, coincidentally, matches a popular sprint length. Furthermore, activities in the future, that are currently unclear, can be planned with much longer durations (e.g. 6 or 8 months) - something not accommodated through the Agile process.

4 BUSINESS PEOPLE AND DEVELOPERS MUST WORK TOGETHER DAILY THROUGHOUT THE PROJECT.

Better decisions are made when the business and technical team are aligned.

Collaboration and communication with the Customer are key tenets of the PSM process. It starts on day one with an agreement between the two on scope and objectives before any planning effort is initiated. It continues as ***they build their plan together***, in the same room at the same time. This collaboration at the beginning of the project is crucial to establishing team bonds and, subsequently enabling us to enjoy the benefits of teamwork (something that is very difficult to achieve in a matrix organization). Finally, these bonds are further reinforced through a regular cycle of project update and control meetings where each person is held accountable (by themselves and their teammates) for delivery of work product. The frequency of these update/control meetings can be anywhere from every-other-day to every-other-week. It is important to note, the expectation is for the team to be in constant communication and collaboration regardless of the update/control frequency. If one discovers an issue the day after a meeting, it is not allowed to fester until the next meeting; corrective action begins immediately and usually starts with a conversation amongst the team members.

5 BUILD PROJECTS AROUND MOTIVATED INDIVIDUALS. GIVE THEM THE ENVIRONMENT AND SUPPORT THEY NEED, AND TRUST THEM TO GET THE JOB DONE.

Support, trust, and motivate the people involved. Motivated teams are more likely to deliver their best work than unhappy teams.

This is absolutely correct, but as of a function of general leadership and management skills, not just Project Management methodologies. However, project management methodology can play a part. PSM does this in three ways.

First, it requires that only a team member actually present at the meeting can accept ownership of a task. No one else can assign the work to them.

Next, that same team member is the only person that can set the task duration (based on their general availability to work on the task as well as their specific experience performing the task). However, this duration can be changed later if additional information is learned that impacts it (such as illness, jury duty selection, etc.).

Finally, that same team member is able to articulate the things they need in order to start their work (aka predecessors). These three tenets demonstrate the value PSM places on motivated, trusted team members.

THE TWELVE AGILE MANIFESTO PRINCIPLES (CONTINUED)

6 THE MOST EFFICIENT AND EFFECTIVE METHOD OF CONVEYING INFORMATION TO AND WITHIN A DEVELOPMENT TEAM IS FACE-TO-FACE CONVERSATION.

Enable face-to-face interaction. Communication is more successful when development teams are co-located.

Face-to-face meetings during both planning and control are key principles of the PSM process. Co-location is excellent, but even when team members are geographically separated, they should be brought together for planning, and meet virtually (Skype, Zoom, WebEx, etc...) on a regular and frequent basis to communicate and control the project.

7 WORKING SOFTWARE IS THE PRIMARY MEASURE OF PROGRESS.

Delivering functional software to the customer is the ultimate factor that measures progress.

PSM would restate slightly to say “completing deliverables per plan” is the best way to measure progress. After all, in many projects, software development is merely one deliverable of many.

8 AGILE PROCESSES PROMOTE SUSTAINABLE DEVELOPMENT. THE SPONSORS, DEVELOPERS AND USERS SHOULD BE ABLE TO MAINTAIN A CONSTANT PACE INDEFINITELY.

To support a consistent development pace, teams establish a repeatable and maintainable speed at which they can deliver working software, and they repeat it with each release.

PSM does not drive for a “repeatable and maintainable” speed; the emphasis is on completing activities per a schedule that meets commitments made to Customers. Not all activities are created equally - some simply take longer than others do (ocean freight vs air freight). Furthermore, the issues of repeatability and maintainability are the purview of each Functional Area manager.

9 CONTINUOUS ATTENTION TO TECHNICAL EXCELLENCE AND GOOD DESIGN ENHANCES AGILITY.

The right skills and good design ensures the team can maintain the pace, constantly improve the product, and sustain change.

This is true, but is, in no small way, a function of technical leadership and management skills, not just Project Management methodologies. Where the project management methodology can play a role is by ensuring the quality of the deliverables as they are completed. This is certainly facilitated by the face-to-face update/control meetings where the team can provide instantaneous feedback regarding the quality of said deliverables. Another example of the team holding itself accountable.

10 SIMPLICITY - THE ART OF MAXIMIZING THE AMOUNT OF WORK NOT DONE - IS ESSENTIAL.

Develop just enough to get the job done for right now.

PSM concurs. “The enemy of good enough is better” is often quoted in our PSM classes. The term scope-creep plays a key role here. PSM firmly believes that scope changes initiated by the customer, in the form of additional requirements or features, is absolutely acceptable provided that additional time and/or money necessary to complete the change requests is agreed to. However, PSM also teaches that scope changes generated by individual team members (generally caused by the desire to make something better), which is not approved and does not come with additional funding and/or time attached (aka as scope creep), is not acceptable.

11 THE BEST ARCHITECTURES, REQUIREMENTS AND DESIGNS EMERGE FROM SELF-ORGANIZING TEAMS.

Skilled and motivated team members who have decision-making power, take ownership, communicate regularly with other team members, and share ideas that deliver quality products.

PSM would say that properly managed teams are more effective than self-organizing teams. Self-organized teams always end up with a de-facto leader anyways, just one with no formal training or authority, which can be ineffective, dangerous or both.

12 AT REGULAR INTERVALS, THE TEAM REFLECTS ON HOW TO BECOME MORE EFFECTIVE, THEN TUNES AND ADJUSTS ITS BEHAVIOR ACCORDINGLY.

Self-improvement, process improvement, advancing skills, and techniques help team members to work more efficiently.

PSM embraces a “Lessons Learned” process to be utilized throughout the life of a single project and then leveraged across future, similar projects. This is seen in two ways. First, each update/control meeting will uncover what is not working well. That information is then used to modify the existing plan (both current and future activities) to make it more accurate and realistic. Second, the lessons learned are incorporated into future projects of similar type.