Benefits of Agile Project Management

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Abstract

The purpose of this article is to suggest the benefits and advantages of Agile Project Management (APM) adopted in business. The Agile Project Development is now common in software development because it is more accurate and practical within a limited timeline and requirements. This article draws upon primary and secondary sources including Agile Software Development, Project Management and APM. The results of this article can be concluded that APM is beneficial for organization or company, team developer, and product.

Keywords: Agile Software Development, Agile Project Management, Project Management

Introduction

Agile was created in 2001 by group of the expert software development as Agile Alliance. It is one of the fastest-growing management techniques since the traditional project management was not suitable in the age of highly competitive business and rapid change. Moreover, today business processes are more complexed and interconnected than ever before. Many projects failed to deliver and to meet their objectives in terms of cost, time and features (A B M and Syed, 2009) and traditional project delivery frameworks cannot deliver as fast as changes and highly uncertain environments. Agile project management allows team to deliver the product with product feature which is the most important element for business, on time (Mike, 2009).

In addition to agile project management (APM), some other typical agile methods that might be used in an agile project includes: DSDM, Scrum, Extreme Programming and Lean software development. The relationship between these four elements is illustrated in the following method

coverage diagram: (Carroll, 2012) in figure 1.

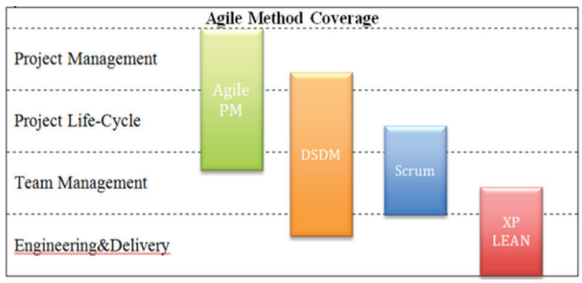

Figure 1 Agile Method Coverage (Carroll, 2012)

Because of the radical nature of these methods, the traditional (waterfall based) approach to project management, with requirements were defined and fixed early in this project which was not fit comfortably with new approach. So a new form of APM began to develop. Agile project Management reflects customer needs. This new approach focuses.

on early delivery of business value, continuous improvement of the project product and processes, scope flexibility, team input, and delivering well-tested. Carroll (2012) explained that Project Managements was newly initiative launched in 2010 by the DSDM Consortium (www.dsdm.org). It took the project management and project life-cycle elements of DSDM and enhanced them by the addition of advice and guidance based on existing good practice. This methodology enables project managers to adopt an agile approach within their organizations and to interface well with agile development teams.

Therefore, this paper aim to suggest the benefits of product development by using APM. To start with, the stages of the Manifesto for Agile Software Development, The stages of the roadmap to value, roles, and followed by the benefits of Agile Project Management.

Manifesto for Agile Software Development

Beck (2001) said that the four values and twelve agile principles were guided from experience focusing on people, communication, the product, and flexibility to support team transition to agile.

Layton (2012) said four values of the Agile Manifesto was generated from experience. As review the values described in the following: 1) Individuals and Interactions over processes and tools, 2) Working Software over comprehensive documentation, 3) Customer Collaboration over contract negotiation, and 4) Responding to Change over following a plan.

Twelve principles was published in 2001 by Agile Alliance as following:

The Agile alliance augmented the four values of the Manifesto with twelve guiding agile principles to support team developer making the transition to agile, published in 2001 as follows:

1. Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.

2. Welcome changing requirement, even late in development. Agile processes harness change for the customer's competitive advantage.

3. Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.

4. Business people and developers must work together daily throughout the project.

5. Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.

6. The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

7. Working software is the primary measure

of progress.

8. Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.

9. Continuous attention to technical excellence and good design enhances agility.

10. Simplicity-the art of maximizing the amount of work not done – is essential

11. The best architectures, requirements, and designs emerge from self-organizing teams.

12. At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

The Stages of the Roadmap to Value

Sliger (2008) guided the PMBOK® Guide is a standard for generally recognized good practices in project management in figure 2 and Layton (2012) explained the roadmap to value is a high-level view of an agile project in figure 3.

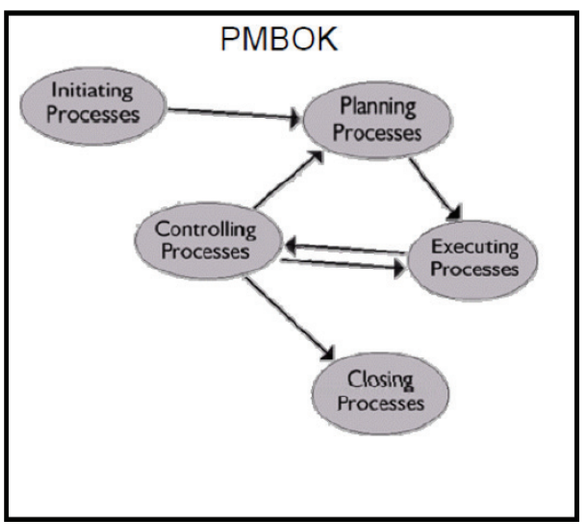

Figure 2 PMBOK® Guide Roadmap

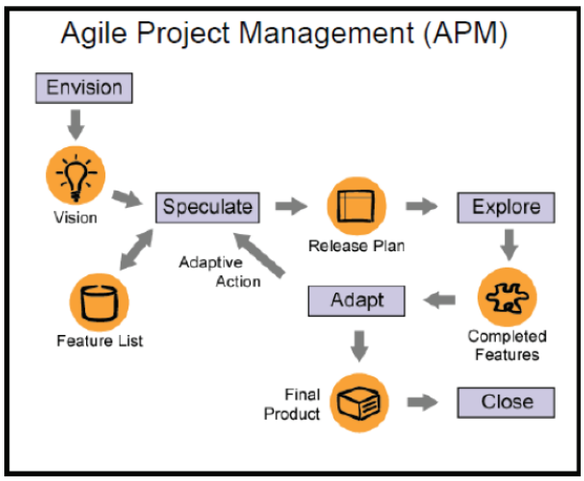

Figure 3 Agile Project Management Roadmap

The stages are listed in the following: (Layton, 2012)

Stage 1: Vision: The product owner identifies the product vision which is the project's destination. Project's destination is a definition of what the product is, how it will support a company or organization's strategy, who will use the product and why the people use the product.

Stage 2: Product roadmap: Product roadmap is a high-level view of the product requirements, with a loose time frame done by product owner with support from the development team.

Stage 3: Release Planning: the product owner creates a high-level timetable called release planning to serves as a mid-term goal that the scrum team can mobilize around. An Agile project will have many releases, the highest-priority features will be appearing first.

Stage 4: Sprint planning: This session takes place at the beginning of each sprint. After the product owner determines requirements, the scrum team indicated a sprint goal, with requirements that support the goal and can be completed in the sprint, and outlines of how to complete those requirements.

Stage 5: Daily Scrum or daily Scrum, meeting: Daily, Development team discusses things they did previously such as what they completed yesterday, and what they will work on today, so that they can learn issues or problems that happened, is happening and will happen immediately.

Stage 6: Sprint review: At the end of every sprint, the development team demonstrates the product to the product stakeholders.

Stage 7: Sprint retrospective: It is a meeting done by the scrum team to discuss how the sprint went and plans for improvements in the next sprint.

Agile Project Management Roles

It takes a cooperative team of employees to complete a project. Agile project teams are made up of many people which are :

• Development team: The group of people who do the work of creating a product. Development team includes programmers, testers, designers, writers, and anyone else who has a hands-on role in product development.

• Product owner: A person who is responsible for bridging the gap between the customer, business stakeholders, and the development team called product owner, or sometimes, a customer representative. The product owner is an expert on the product and the customer's needs and priorities. The product owner works with the development team daily to help clarify requirements based on customer's need.

• Scrum master: A scrum master or a project facilitator is an important person who is responsible for supporting the development team, clearing organizational roadblocks, and keeping the agile process consistent.

• Stakeholders: Stakeholders provide input and are affected by the project's outcome. They are not ultimately responsible for the product. The group of stakeholders can include people from different departments, or even different companies.

• Agile mentor: Agile mentor is an expert who has experience implementing agile projects and can share that experience with a project team. This role is a good supporter who can provide valuable feedback and advice to new project teams and to project teams that want to perform and succeed at a higher level.

The benefits of Agile Project Management (Layton, 2012)

1. Better product quality: Agile methods have excellent safeguards to make sure that quality is as high as possible by

• Taking a proactive approach to quality to prevent product problems

• Embracing technological excellence, good design, and sustainable development

• Defining and elaborating on requirements just in time so that knowledge of product features is as relevant as possible

• Incorporating continuous integration and daily testing into the development process, allowing the development team to address issues while they're fresh

• Taking advantage of automated testing tools in order to develop during the day, test overnight, and fix bugs in the morning

• Conducting sprint retrospectives, allowing the scrum team to continuously improve processes and work

• Completing work using the definition of done: developed, tested, integrated, and documented

2. Higher customer satisfaction: Agile project teams satisfy customers by

• Keeping customers involved and engaged throughout projects.

• Having a product owner who is an expert on product requirements and customer needs.

• Keeping the product backlog updated and prioritized in order to respond quickly to change.

• Demonstrating working functionality to customers in every sprint review.

• Delivering products to market quicker and more often with every release.

• Possessing the potential for self-funding projects.

3. Higher team morale: Being part of a self-managing team allows people to be creative, innovative, and acknowledged for their expertise. Having a scrum master removes impediments and shields the development team from external interference. Working cross-functionally allows development team members to learn new skills and to grow by teaching others.

4. Increased collaboration and ownership: The development team, the product owner, and the scrum master work closely together on a daily basis. Daily scrum meetings let the development team organize around work completed, future work, and roadblocks. During sprint reviews the development team can demonstrate and discuss the product directly with stakeholders.

5. Customized team structures: Self-management puts decisions that would normally be made by a manager or the organization into scrum team members' hands. Because of the limited size of development teams — five to nine people — agile projects can have multiple scrum teams on one project. Self-management and size-limiting mean that agile projects can provide unique opportunities to customize team structures and work environments.

6. More relevant metrics: The metrics agile project teams use to estimate time and cost, measure project performance, and make project decisions are often more relevant and more accurate than metrics on traditional projects. On agile projects, you provide metrics by

• Determining project timelines and budgets based on each development team's actual performance and capabilities

• Having the development team that will be doing the work provide effort estimates for project requirements

• Using relative estimates, rather than hours or days, to tailor estimated effort to an individual development team's knowledge and capabilities

• Refining estimated effort, time, and cost on a regular basis, as the development team learns more about the project

• Updating the sprint burn down chart every day to provide accurate metrics about how the development team is performing within each sprint

• Comparing the cost of future development with the value of that future development, which helps project teams determine when to end a project and redeploy capital to a new project

7. Improved performance visibility: On agile projects, every member of the project team has the opportunity to know how the project is going at any given time. Daily scrum meetings, daily sprint reviews, and visible progress charts offer concrete ways to see progress.

8. Increased project control: The many opportunities to inspect and adapt throughout agile projects allow all members of the project team

— the development team, product owner, scrum master, and stakeholders — to exercise control and ultimately create better products.

9. Improved project predictability: Agile project management incorporates several practices, artifacts, and tools for improved predictability:

• Keeping sprint lengths and development team allocation the same throughout the project allows the project team to know the exact cost for each sprint.

• Using individual development team speed allows the project team to predict timelines and budgets for releases, the remaining product backlog, or any group of requirements.

• Using the information from daily scrum meetings, sprint burn down charts, and task boards allows the project team to predict performance for individual sprints.

10. Reduced risk: Agile techniques virtually eliminate the chance of absolute project failure:

• Developing in sprints, ensuring a short time between initial project investment and either failing fast or knowing that a product or an approach will work

• Always having a working product, starting with the very first sprint, so that no agile project fails completely

• Developing requirements to the definition of done in each sprint so that project sponsors have completed, usable features, regardless of what may happen with the project in the future

• Providing constant feedback on products and processes through daily scrum meetings and constant development team communication, sprint reviews and retrospectives, and releases in which the end user can see and react to new features on a regular basis

• Generating revenue early with self-funding projects, allowing organizations to pay for a project with little up-front expense.

11. Sharma (2012) stated that APM is adaptive to the changing environment: In agile software development method, software is developed over several iterations. Each iteration is characterized by analysis, design, and implementation and testing. After each iteration is completed, the project is delivered to the customer for their use and feedback. Customer is welcomed to require any changes or upgrade the software at any stage.

Conclusion

Benefits for Customer

Agile project management definitely serves customer satisfaction. It needs user's involvement and product is developed based on the requirement taken from customer. The development team gives the product for user to use and improve by using iteration process, then customer gives feedback. Any changes and requirement are welcome at any stage of development by updating and prioritizing product backlog in order to ensure that they get the final high quality product and potential funding project.

Benefits for Project Management Team

Agile methodology helps team member to learn new skills by teaching others. It allows member to be creative, innovative, and acknowledged. More than that it increases collaboration and ownership between the development team, the product owner, and the scrum master. The scrum master, who removes impediments and shields the development from external interference by daily scrum meetings, daily reviews, and visible

progress chart, then, plays an important role in product development.

Benefits for Product

Agile development methodology produces better quality product because of its frequent sprint retrospective, and continual improvisations through iteration. It also prevents product problems. Furthermore, the product turns result in hitting the market early as a result of the agile development methodology promotes the concept of early and regular roll out of the product through iterations and beta demonstrations.

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