Software Development Method
409232

Assignment 1

Case Study Report

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Abstract

The various dimensions of the problems of productivity and technology cannot be found in technology alone, but rather there are also human factors that either facilitate or constrain the ability of firms and workers to adopt and implement new technologies. This paper discusses the factors that contribute to Knowledge Management Systems effectiveness. Through a case study and literature reviews a general framework has been delineated. This framework describes dimensions involved in the adoption of technology at both the users and organizational level.

1. Introduction and Background

Software development as the name suggests is a methodology that provides a framework for the development of a project. There are various methodologies and practices available industry wide. Each methodology is having their own pros and cons. Depending on the Industry type, project type, technical needs, Organizational structure, sizing, roles the best suited methodology can be chosen. To name a few some of the popular methodologies in practice are waterfall, Prototyping, Spiral model, and agile.

In the study we have taken in to consideration a company having strength of 5000 employees approx. The company is handling big projects from its various clients. There are number of projects running in parallel some are adopting waterfall methodology and some are in Agile .Depending on the client requirement and the understanding developed after discussion with customer projects are running either in waterfall or in Agile .

Recently, company has won a project that is from a client who has many competitors in the market and they are delivering continuously. After discussion with the customer the technical expert came out with some of the initial requirements that:

- Customer requirements are not fixed and they can undergo changes as and when the product develops
- Customer basic need is to get a prototypes basic model of the product to be launched in the marked as early as possible and afterwards the features keep on enhancing
- The team should be monitored closely and company is able to give them the status of the project at any time during the product development.

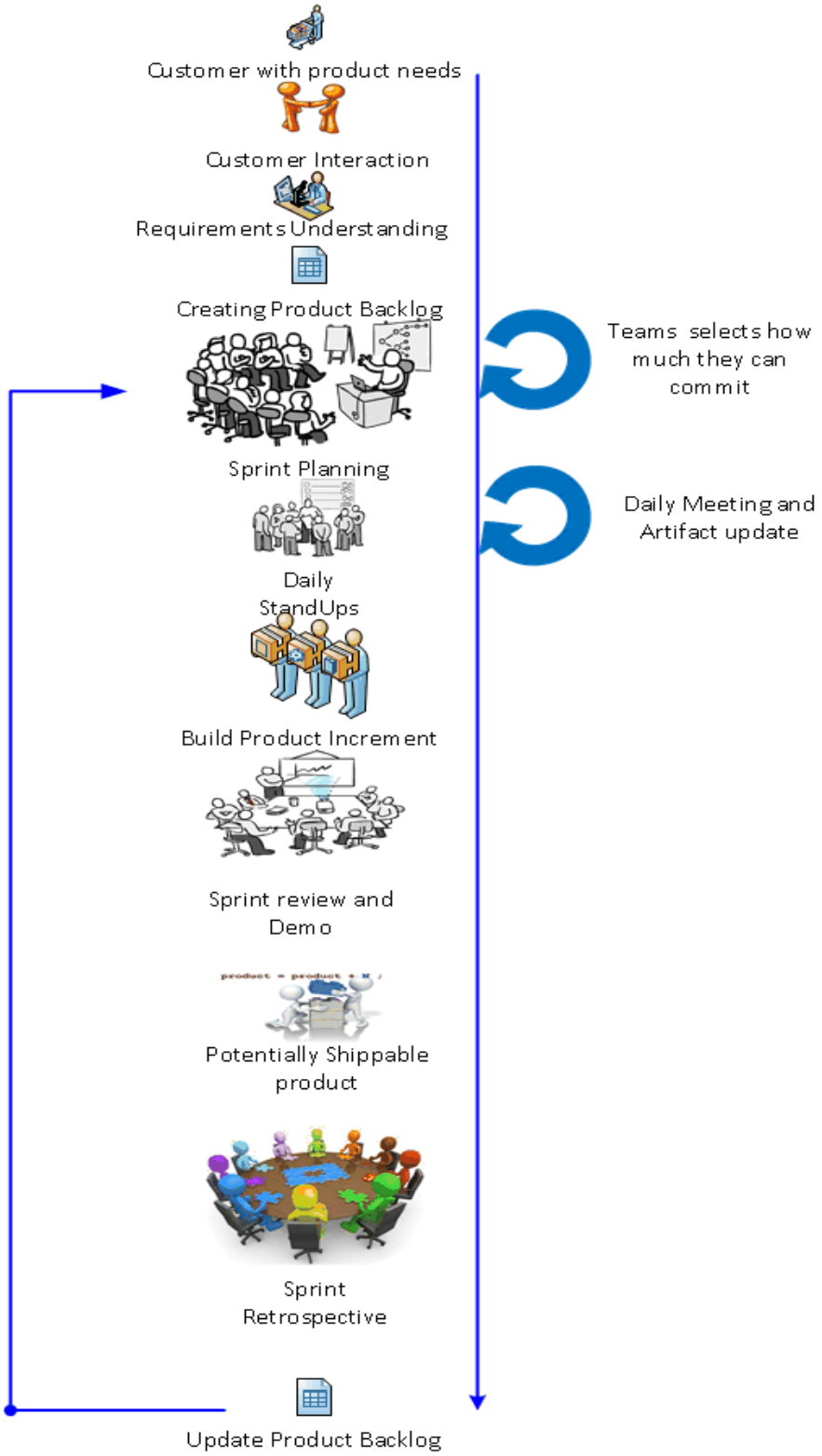
Based on this initial discussion with the customer the technical experts have decided to adopt an agile methodology with Scrum practice for this project.

As agile is a methodology that is best suited for projects wherein requirements are not fixed and are dynamic, also, the main emphasis is always given to closer team

interactions and fast deliveries of a potentially shippable product at the end of the sprint using fail first technique.

An Agile team is created for this project and different level of responsibility and roles are assigned to the persons and teams. There will be an Architect/Product owner, Scrum master and the Scrum teams having 5-10 members. The architect / Product owner is responsible or gathering requirements from the customer and creating requirement backlog. The requirements backlog are the features that are required to be developed .the scrum master is the person responsible for smoother task working that are committed by the scrum teams. The scrum master helps the team in coordinating the work and removing obstacles that can come during the course of sprint. The scrum teams consist of 5-10 members maximum the teams consists mainly of testers and developers.

2. Methodologies and Tools



This project adopted agile methodology for software development and the scrum practice has been used for this .The motivation behind using the agile methodology or this software development came from the customer requirement of faster deliveries of basic product and then based on the market trends the incremental production of the software is done. The requirements o the software can get impacted by the market trends and needs. This process also makes it easier to get the frequent results of the developing project. To put this methodology in practice Scrum practice is used. The scrum practice in agile follows the exercise of Sprint planning, daily Stand-ups, sprint review and Demo and retrospectives based on the sprint duration.

At various stages of the software development different tools are used for resolving the purposes at that stage and making the process agile and work smooth.

In this agile project various tools has been used for the purpose of successful project development, the tools used are;

JIRA: JIRA is used or project management and bug tracking, at the initial stage of planning and initiating the project JIRA is been used. During the project JIRA is also used for bug tracking for the bugs raised during the developmental stages of the product. As JIRA is a licensed commercial project its use is not limited to project planning only it has been extended to ne used as a bug tracking tools also. It provides the flexibility of

Rally: rally is the tool that can be used or serving various purposes in Agile. Here in this project we have used Rally mainly for capturing the requirements. In Agile the requirements at the higher levels are known as EPIC, All the features come under the EPIC umbrella. The feature are extracted out of the EPIC after discussing and understanding the priorities with customer and after that the discussion between the product owner and the architecture. The feature are created and decided based on the sizing and

Jenkins: Jenkins is a tool for providing continuous integration of the software. It helps in creating build.

Wiki: Wiki is kept on the internal server as an intranet for the purpose of keeping the APIs details and learnings that are done during the development and testing learnings done in the sprint. The wiki captures the internal details and learnings that a customer can also visit for knowing about the APIs and their detailed purposes. The role of wiki is to capture all those details too that cannot be covered in user documentation but can be useful for future learnings that can be implemented in the development.

Git: Git is a versioning tool that helps in maintaining the versions of the code and the documentation sprint by sprint. Git helps in incrementing the potentially shippable product.

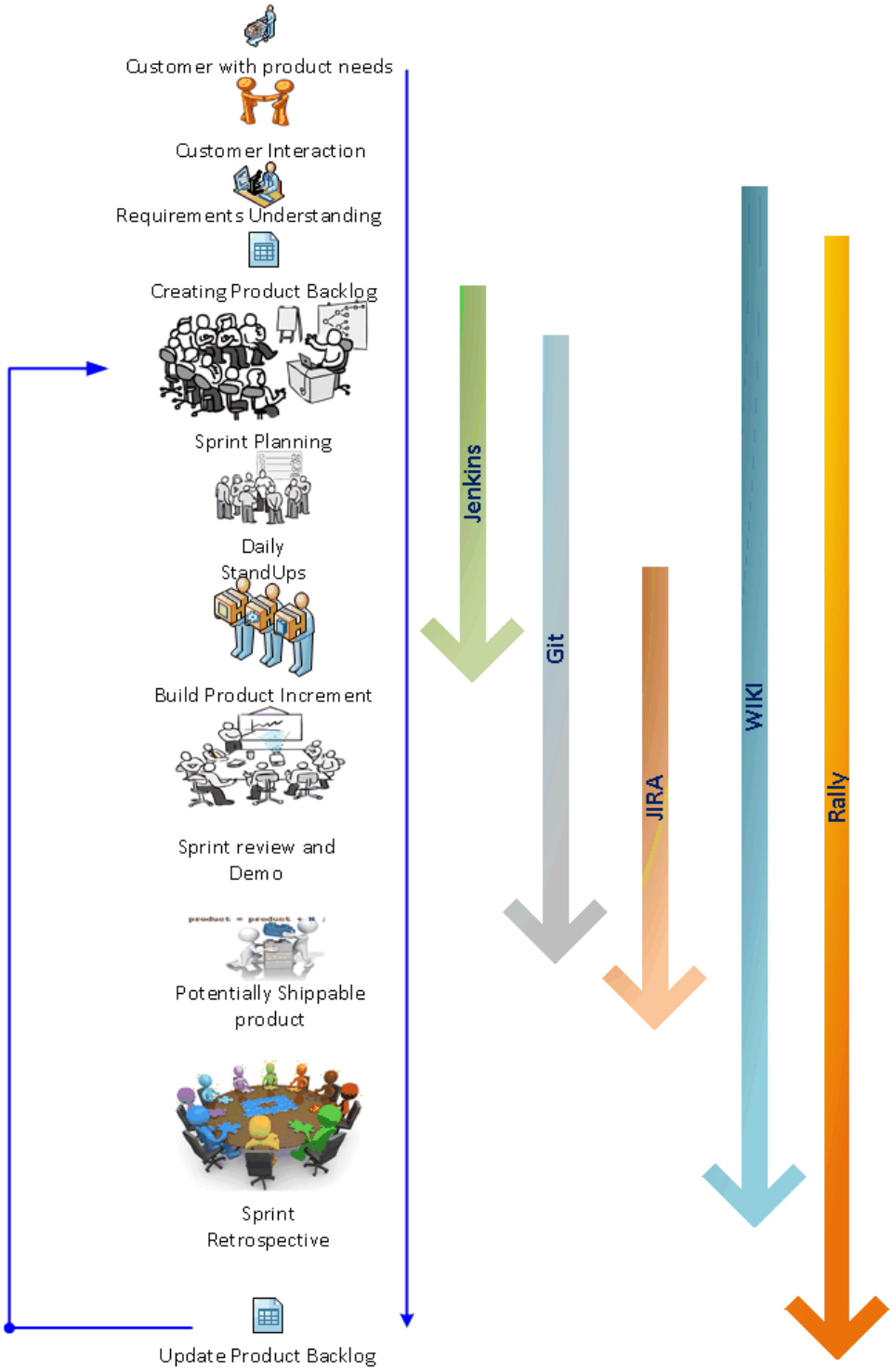


Figure-2: Tools at Various Stages of Agile Development

The aspect of software development which team found challenging is the maintenance of stable build on which testing and automation is required to be done incrementally. Many a times a code change by some team results in an unstable build that may prove to be an unstable build to be tested or other team working on some other part of the feature development. With every incremental user story this problem is increasing and team wanted a solution to this.The teams are requested to use the last labelled version by the teams and should use the latest version labelled and this has been made a point for further sprint planning also, that the stories are planned in such a manner that the next major testing on the code should be done only after onre team is done with the testing of the code and mark it ok. No two teams should be assigned a feature that require them to test for a code on the same kind of code two avoid rework and ailure of testing and hence rise in bugs.

3. Conclusion and Recommendation

The main challenges cred by the teams during the development in agile environment is:

- Incremental Coding increases the chances of introducing bugs and failure of build that was successful previously.
- Documentation on per user story basis hampers the quality of documentation; the complete picture of the user documentation in progress is not visible and when in the end of product cycle it had been observed major changes are seen to happen in the documents using the quality time or review and comments disposition.

References