Adopting Agile Development in the Large

Ian Somerville (2010) suggests that during the late 1980's the waterfall approach to software development had let to dissatisfaction due to large overheard involved in all the phases of Software development process. Christian E. (Ericsson) also mentioned in the podcast how the customers were unhappy about the waiting time to receive an actual working software. These lead time and documentation overhead in all the stages let to the need for a dynamic approach or agile methods for software development where in the main focus should be on the code.

The Agile methods focused on the code rather than the design (Ian Sommerville, 2010: Chapter 3). These methods are based on a repetitive process and intends to provide a working software which can adapt to the changing requirements of the customers (Ian Sommerville, 2010: Chapter 3).

Ericsson is a major player in the telecommunication Network nodes provider. The company switched from the traditional waterfall model and adopted the agile model for software development. Christian E, part of the Ericsson Research and Development team and one of the main drivers for the transformation from the PROPS waterfall model to the Scrum model talks about how the company adapted the Agile method, the reasons, the challenges, the benefits, drawbacks and the process of implementation. He says that the team consisted of over 400 employees initially working in silos with very little room inter disciplinary interactions and learning. There were 4 main challenges of the PROPS method that was followed. They are

- The scope of the project was usually big and this led to longer lead time. Once the scope was finalised the project went on for nearly 2 years and the customers had to wait for a long time to see some tangible results
- Responsiveness to requirements and change handling was difficult
- Quality came with heavy costs. The company had to recruit a large number of testers to do testing.
- The teams were isolated and the team members lacked motivation factors to learn more

The Agile method proposed the following principles:

- **Customer Involvement**: Customer should be involved in all the phases of the development prioritize system requirement and perform continuous evaluation[1]
- **Incremental Delivery**: The software should be developed and delivered in increments and each increment should rollout some new functions[1]
- **Embrace Change**: Proactive approach for any requirement change in the system[1]
- **Maintain Simplicity**: Be simple in both software and the development work. Work with cross functional teams to eliminate the complexity of the system[1]

As Ericsson had many cross functional team and there was a need to create continuous discussion dialogue with the product management, developers, testers and customers and the Agile principles promised the framework to help make the process better (Christian E).Agile stress on the importance of communication over documentation. One of the major benefit was the transformation led to effective communication between the teams and improved the quality of the deliverables.

Scaling scrum was one of the biggest challenge during the transformation. The 400 employees were divided into nearly 40 different scrum teams and scum of scrum team was very challenging to achieve. The initial phase started in 2008 which involved understanding the

agile tools and forming a team. The teams were made to work in 2 week sprints using the time boxing concept of the Scrum model and the results were not as expected. Over time the flow was developed to include continuous integration and feedback. This was the key factor to improve the quality of work done. The cross functional teams were brought together based on the competencies of individuals and valuing the skills of each individual which helped in more communication within the team which resulted in continuous feedback and learning. The project managers, line managers and quality managers were made the Scrum Masters who had the broad understanding of the whole product and technology which led to effective management says Christian E.

Christian E also mentions about the transformation of the physical space, where a scrum team was sitting close by with a white board and table where the team sat together and discuss everyday development and what had to be done every day. The trouble ticket were reduced as there was immediate feedback by the team member and this reduced the administrative cost as well and save the company nearly 1 Million $ (Christian E).

Similar to Ericsson, many other large enterprises like IBM, Toyota, and HP have also implemented the same practice and have found success in the way of working and development [3].

Ken Schwaber and Jeff Sutherland (2013 : 14-15) mentions in their article “The Scrum Guide”, that one of the main causes for the success of the Scrum is the Artifact Transparency. The Scrum Master must work with the Product Owner, Development Team, and other involved parties to understand if the artifacts are completely transparent [2]. This will lead to sound decisions.

In conclusion the Agile method of Software development has helped Large enterprises evolve into better organisation with more number of happy employees who are working in effective and efficient working environments thus maximising the throughput of the organisation.

References:

[1] Ian Sommerville, (2010) Software Engineering, 9th Edition Pearson Education, Addison-Wesley Publication.

[2] Ken Schwaber and Jeff Sutherland, (2013) 'The Scrum Guide The Definitive Guide to Scrum: The Rules of the Game'

[3] Colleen Frye, 'Implementing Agile in very large enterprises' [Online], Available: http://searchsoftwarequality.techtarget.com/feature/Implementing-Agile-in-very-large-enterprises