

Study of key reasons of successful adoption of Agile Methodology in I.T organizations

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Abstract— Agile is not just hype in modern software development; it is getting popular so far. The aim of this research is to discover key reasons behind agile methodology in I.T organizations. This research is the result of broad literature survey and interaction with various agile specialists. Authors tried to explore various key terms which are responsible for success of agile projects. This study will help the organization to choose agile methodology willingly over traditional software development.

Keywords— Agile Methodologies, Team Collaboration, Training, Product vision, planning.

I. INTRODUCTION

Traditional Software development methodology is sometimes called as heavyweight methodology also just because of its stiff structure. Some features of these heavyweight methodologies are predictability, high level planning and process oriented. It has extensive focus on well-maintained documentation regarding requirements, planning, and estimation. Although Traditional software development even require official communication, command cum instructions, controlled governance and these factors are important too. It has specific tasks and roles in every phase.

In modern software development for highly complex software or systems traditional software development uses OO (Object Oriented) Approach and structured phases is consider as SDLC software Development Life Cycle. Traditional SDLC contains secured and modern technologies, well defined process structure, different process tools and well defined roles, hence traditional SDLC is maintained successful and verified tracked record.

The biggest irony is that development process is always controlled by structured and identifiable approach. It assumes that the problems are completely recognized, stated and identified in the starting of the development process. In Traditional or heavyweights methodologies every problem has optimal and expected solution. These controls, measurements, predictions and validations are mainly based on rigorous estimation and detailed planning.

The process oriented approach of traditional development methodology made the experts to get belief that differences in sources can be easily predictable and can be removed by the continuous testing and filtering process. Hence with the strong support of controlled management traditional software development methods ensures optimal satisfaction for the customers.

In traditional software development roles of stakeholders are different but the role of project managers specifies which work has to be performed ,what are the desired outputs after every single lifecycle phase , the work has to be assign to developers, programmers ,testers who will perform these tasks. Perhaps cannot guarantee workload will be finished in given timeline.

Whereas Agile methodology is corporately fresh, recent and innovative. This is why it is adapted by many big organizations like Facebook, YAHOO, GOOGLE and many more.

In 2001 Software Engineering experts created Agile manifesto .They have given values and principles of Agile Manifesto while adapting Agile Methodology.

- 1) Individual and interaction over process and tools
- 2) working software over comprehensive documentation,
- 3) customer collaboration over contract negotiation,
- 4) Responding to change over following a plan. (<http://www.agilemanifesto.org>)

Agile always aims the customer satisfaction, Agile method gives the small iterative deliveries which will always value add to application or product or the service and by doing this continuously add on the important or meaningful will tremendously increase the customer satisfaction. As in the current fast changing world many requirements keep on changing so In the agile methodology it allows to change the requirements which will be taken care effectively and efficiently. Compare to the traditional methodology's, agile always emphasize on small skilled teams which has the organized and self-motivated members. Agile always emphasize break down the work on the smaller part and always plan for the current but also flexible enough for the last-minute requirement changes. In Agile methodology important role is customer who needs to give timely requirement and the feedback throughout the project. Customer always support by evaluating what's build and what's need to change. Agile methods as always focus on the current work /sprint /requirement so as the current risk too not the future risks.

As we now today's world is fast changing world technology and requirements changes more frequently than the old days so in this fast-changing world agile methods and techniques gives the commendable and proven results in the circumstances where requirements are changing drastically and when the future requirement are not clear specially when the project budget is very low. Agile is now a day more flexible, and adaptable to provide quality delivery and high satisfaction to customer.

Traditional method like complete requirements and design for whole and develop complete and deliver entire system this type of development techniques are not followed in the agile.it has more emphasis on breaking the system into small meaningful part and deliver one one part at a time which increase flexibility, adaptability and quality. also, agile works on the principle of interactive communication and the transparent interaction and more involvement of the customer in every stage to achieve high quality using highly skilled small team.

This paper divided in Three Sections. 1. Literature review. 2 present the finding of this paper in the form of critical success factors. Finally 3 conclude the papers.

II. Literature Review

For literature survey information has been collected from various sources - books, academic research papers, and websites.

Literate Review of Existing Software Development Methodologies

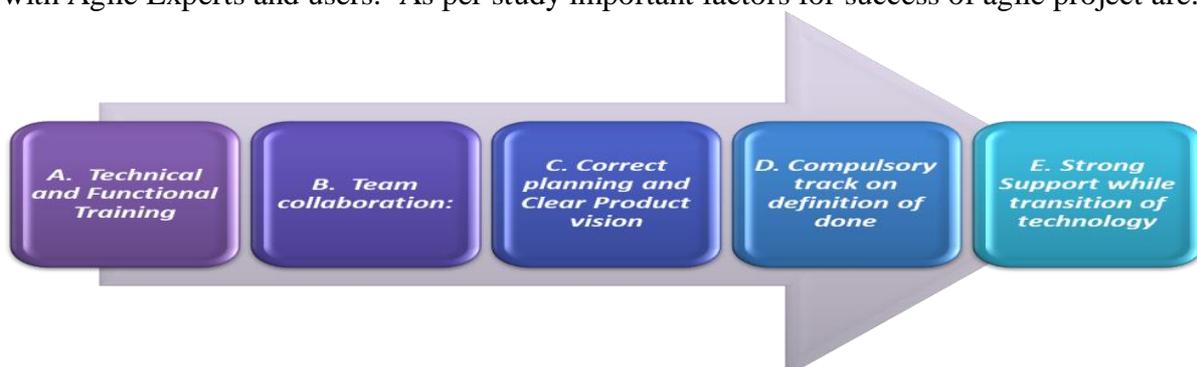
Literate Review of Agile Software Development Methodologies

Limitations in Adoption of Agile Scrum Methodology

Need for transition from traditional SDLC to Agile software development methodology

III. IMPORTANT FACTORS TOWARD SUCCESS OF AGILE METHODOLOGY

In this research the methodology used to find outcomes are literature review and discussion with Agile Experts and users. As per study important factors for success of agile project are:



A. Technical and Functional Training

Thorough knowledge of any process is the most crucial factor is success of Agile projects. Hence team should be well knowledgeable or trained to use Agility in projects. Different responsibilities are associated with different roles in Agile, so training includes exercises related to Agile principles and values. Agile coaches need extreme efforts to change mentality of teams to use Agile mindset instead of traditional methodology. To use Agile successfully in an organizational project all the stakeholders has to change their mindset and attitude, because it varies from traditional to Agile.

For the smoother development process every team member of project should get proper training to be Agile. Client plays an important role in Agile methodology so they needs training too. The role of developer is slight different in Agile, so developer should get proper opportunity to understand process in depth through training.

Agile methodology requires strong and reliable management. Agile Coach or Project superiors need to recognize their accountabilities. They should be coordinator with good communication skills as this is secondary in traditional Agile development. Team collaboration and faith are key aspects. For smoother transition team require training, practical sessions and theoretical knowledge about Agility.

B. Team collaboration

The success of Agile project is mainly grounded on team efficiency, communication and performance. An individual or few experts in team are not that much effective as collaboration of team . Team should have proper communication and understanding between each other .It needs few number of experts instead of less skilled big team. Unwanted phases from traditional software development had removed from Agile . It requires less documentation as compared to traditional methodology. Apparently developers get proper scope and time for its work.Agile team requires training and if it have proper knowledge of Agile processes then development of project completes faster than traditional software development. That is why trained and skilled peoples are most important factor for Agile ,less skilled and untrained team members will decrease the performance of entire team.

The management peoples and owners could be overconfident about Agile ,they must be thought Agile will overcome all the limitation of traditional software development , but that is not true .If the team is overconfident and they start working without proper knowledge of Agile then it will create numerous issues. Issues like performance degradation, lengthy modules implementation, loss in productivity and so on. Hence it can demotivate the team and might be they will not prefer Agile for future development.

As Agile is used for faster development but it does not mean that choices are made without planning. A Proper discipline and cautious planning are main pillars while building project using Agile. As team is transferring it methodology from traditional to Agile the stakeholders may expect better performance in term of productivity, efficiency and velocity , hence agile team has to work hard toward achieving the target, and if there are multiple teams over jealousy can lead to wrong decision, performance and results.

That is why proper preparation, planning and discipline is needed to switch to any new technology or methodology, otherwise it can give reverse effects too .So it's a duty of Agile coach or scrum master or higher management to train their team before switching to Agile.

C. Correct planning and Clear Product vision

Even though Product owner have all concern about planning and vision, other team members should have to provide clarity about agile requirements. Product owners require to bring all team together to achieve vision and planned outcome. Agile team has to work on the outcome that shows what customer and

Product owners need access to stakeholders and customers at the beginning during project planning as well as throughout the project to ensure that the vision and roadmap continually reflect what the customer and souk requires. Goal oriented software development provides good commercial and consumer value with low risk factor. The Agile principle stated that a good outcome always comes from devoted team with proper planning and vision.

D. Compulsory track on definition of done

After every sprint some product has to be shipped. Finished cycle of sprint without shippable product is anti-Agile. Hence it is recommended that definition of done have following clarifications.

Required Type of testing

Detailed Documentation

Functional and nonfunctional requirements

Integrated Environment

The definition of done should be conveyed to product owner and if it not done at end of sprint, it should be forwarded to next sprint with added definition of done. Every team member has to work toward to achieve this done. SCRUM master, developers testers, product owners combinable have to play their role wisely.

E. Strong Support while transition of technology

A good training at senior, team and customer level always leads to success. Training gives you the confidence to deal with the issues as work discipline, reinforcement lacking, individual mentoring, specific uncertain challenges, attitude issues etc.

IV. CONCLUSION

To make any agile project successful the given important aspects are essential to implement. This paper is conclusion of study based on Literature Review and discussions with Agile Experts. These aspects are plays an important role for organizations who want to adopt Agile as new modern software development. But while adopting agile organizations should provide a proper training to every agile team member. Whereas team collaboration, self-motivation, effective buy in support are again essential for success of Agile. Requirement engineering process should follow the rules to maintain Agility. Correct planning and ensured vision makes big difference in achieving product roadmap. So we can conclude that definitely it will give positive impact on Success of Agile projects if organizations emphasize on these important aspects

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