

# Process Selection base on project scenario

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**Abstract-** With the emergence of the Internet, software development has become an integral part of almost every aspect of business today. Companies are going for the web based application as it can be accessed 24 hours from anywhere. Companies are preferred to go for the web based application for their convenience and real time information.

Therefore, an increasing number of resources are being allocated to the development of profitable software to meet customer needs/requirement. Because companies desire to maximize their profits, an efficient allocation of these resources is necessary to minimize costs. This can be achieved by implementing a process model that best converts their resources to quality products. Same times it is always be a question that we should go for which software methodology.

How agile could be better in today's changing market with other process. We will here try to compare the Agile and other software process /model and evaluate how its suffice the project requirement and suitable for which type of projects. Mainly software process selection is the key decision base on the type of projects (Fix price , Maintenance ,clear/not clear requirement).

Agile software development is a relatively new framework aimed at reducing risk and production costs and allow room to accept rapid changes. It is based on iterative development and continuous feedback from all stakeholders throughout the development cycle. The switch to an agile process model from a traditional waterfall process model can reduce the risk associated with producing a large-scale software application by decreasing lead times and increasing team morale and productivity.

There are the numbers of process work around where people are working and evaluating those processes, following best practices to make more profitable eventually.

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3 factors are important while selecting the process that how process could support the project execution in terms of the Quality, Cost and schedule, Of course other important factor is project requirement (Understanding of the functional and technical requirement) ..Mainly we will cover difference between the water fall and Agile (Not covered comparison with other module) and how its applicable to projects scenario.

In software development, waterfall and agile are both trade-offs between speed and risk

Where waterfall provides the more risk averse option at the cost of speed, agile is less disciplined and consequently a faster and more dynamic way to develop software.

Here we will try to conclude which of process is better or best for which type of project scenario.

## I. INTRODUCTION

Agile methodology is the now key process implementation in the nowadays for software projects development. Today's business environment is getting changes rapidly where changes in software are obvious phenomena during the development part.

Agile methodology gives us the opportunity against the traditional model to accept changes where ever required .It has the feature to adapt client or end user requirement modification/changes in business process in today's competitive market where as the traditional methodology does not give much opportunity or not enough flexible to adapt changes or modification in terms of the process. Agile is nothing but the execution of projects milestone (SPRINT) under the waterfall model and exercise all its activities for that SPRINT only and it also cannot allow to move to next SPRINT until unless previous one is closed successfully. Agile we can say its combination of the waterfall and incremental and iterative model .Still how Agile is similar or different with the Waterfall and where it could be used.

## II. MOTIVATION

I was always keen to research in process area. The research area which has been motivated to me to know about more on AGILE and same time I keen to know that how its different from other process. Although so many process/guideline are there like CMMi/ISO guideline, waterfall, Spiral but considering all process scenario curiosity is that how better AGILE perform in terms of project execution and .

Agile development is a general term covering number of different but somewhat similar method that have evolved within the software community as a response to years of market uncertainty increasing pace and competition. It is also an acknowledgement and a result of the high complexities.

In contrast the traditional waterfall methods which are being used for most of the software development projects agile method represent the integrated software development approach for software development activities.

Agile method emphasis on the flexibility and openness to changes in the project requirement specification when the surrounding market and potential user always demand to change as per their need . In traditional method often project success sticking on the predefined planned and requirement.

Base on the above criteria motivation was this to find out that how AGILE is better on project rather than other software process even assuming that it could take more time to develop the entire software in terms of schedule NOT in terms of the effort. This research project measures the data of the schedule cost and effort by using the EVM methodology to accomplish the above said assumption.

The challenges are following to do so

Adaptability of the AGILE.

Simultaneously running same project by different team

Implementation of EVM

Taking view of developer team on each stage of the projects

The AGILE is come up with the new integrated product development process which could be use in any industries weather its manufacturing or construction etc.

### III. PROBLEM STATEMENT

It is always challenged that which process need to be applied on which kind of project and same time how it is going to be tracked and monitored with any technique like EVM (Earn Value Management ). In organization some time you get development project some time you get maintenance, some time we work on product .

Similarly in front of the requirement some times its clear and sometimes very vague .it always confusion or dilemma for project sponsor or project manager that which process need to be selected. Here it need to be put some focus on the project type and suggestive process base on some parameter which would help to take decision or would work as guideline for selection of process. There are always be a factor on quality, schedule and cost end of the day before finalizing the any process . of course there are the other parameter like stake holder availability , location /cross location team etc.

### IV. RELATED WORK

In today's business scenario agile implementation is the key factor to get the optimum output during the project development. Water fall is any way traditional approach of software development. In February 2001, 17 software developers met at the Snowbird, Utah resort, to discuss lightweight development methods. They published the Manifesto for Agile Software Development to define the approach now known as agile software development. Some of the manifesto's authors formed the Agile Alliance, a non-profit organization that promotes software development according to the manifesto's values and principles.

Lots of comparison has been done in between the Agile and waterfall process. AGILE SCRUM process has introduced base on AGILE principal. There are 3 key factors (quality, schedule, cost) to monitor the software projects. EMV is one of the methodologies to measure the schedule and cost for waterfall process on milestone basis. In same way cost and schedule index could be measured SPRINT basis on AGILE (SCRUM).

Now AGILE has been introduced so EMV need to be implemented on AGILE SCRUM

### V. PROPOSED WORK

The proposed work will be finding out which process is suitable for which type of projects. We would start with following steps

- 1) Relationship: Find out where is Agile and waterfall process is related with each other. Study both process and work on their attributes/ feature and study the similarity and differences.
- 2) Implementation: Select project to Implement both processes in projects. Measure data time to time and study .
- 3) Check possibility of implementation of in AGILE and Waterfall for type of projects. Closely watch benefits and drawback during the project execution .
- 4) How nature of the project/product (under development or maintenance) make impact on process.
- 5) Study and understand EVM how its can be used for project management
- 6) Measure EMV (cost, schedule) base on milestone in Waterfall.
- 7) Measure EMV (cost, schedule) base on SPRINT in AGILE (SCRUM).

### VI. CONCLUSIONS

In our study we recommend base on the execution of the projects with both process

- 1) If requirement is clear in this case better to approach waterfall and Agile can be used for the product.
- 2) The Agile process because of it would be easily adopted in the maintenance kind of projects or for product.
- 3) Agile could be give more client satisfaction as he is involved beginning of the project.
- 4) Maintaining CR is easy to manage.
- 5) Agile Methodology instills confidence early on (risk, operational effectiveness)
- 6) Agile embraces change – indeed, change is expected / encouraged
- 7) Traditional Methodology still best for Earned Value but EVM can be implemented in AGILE as well on SPRINT basis.
- 8) New methodologies necessitate new metrics.
- 9) Close interaction and observation with customer creates opportunity

- 10) Good relationship with customer promotes amiable environment
- 11) Proving added value to customer results in requests for additional work.
- 12) Customer involvement is the key aspect of a ideal Agile environment.
- 13) Agile environment creates useful products in short time
- 14) Successful products with close customer/developer relationship enhances confidence, builds trust, establishes reputation

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