Chapter 3

An Agile View of Process(Refer ebook :- Roger Pressman)

- What is agility(book page:-67)
- What is an agile process (page no.68)
- Agile Process Models
  - Extreme programming(page no. 72)
  - ASD(Page no. 81)
  - Scrum(Page no.82)

Advantages of Agile model:

- Customer satisfaction by rapid, continuous delivery of useful software.
- People and interactions are emphasized rather than process and tools. Customers, developers and testers constantly interact with each other.
- Working software is delivered frequently (weeks rather than months).
- Face-to-face conversation is the best form of communication.
- Close, daily cooperation between business people and developers.
- Continuous attention to technical excellence and good design.
- Regular adaptation to changing circumstances.

- Even late changes in requirements are welcomed.

When to use Agile model:

- When new changes need to be implemented. The freedom agile gives to change is very important. New changes can be implemented at very little cost because of the frequency of new increments that are produced.
- To implement a new feature the developers need to lose only the work of a few days, or even only hours, to roll back and implement it.
- Unlike the waterfall model in agile model very limited planning is required to get started with the project. Agile assumes that the end users' needs are ever changing in a dynamic business and IT world. Changes can be discussed and features can be newly effected or removed based on feedback. This effectively gives the customer the finished system they want or need.
- Both system developers and stakeholders alike, find they also get more freedom of time and options than if the software was developed in a more rigid sequential way. Having options gives them the ability to leave important decisions until more or better data or even entire hosting programs are available; meaning the project can continue to move forward without fear of reaching a sudden standstill.

Advantages of Extreme Programming

- The main advantage of Extreme Programming is that this methodology allows software development companies to save costs and time required for project realization. Time savings are available because of the fact that XP focuses on the timely delivery of final products. Extreme Programming teams save lots of money because they don't use too much documentation. They usually solve problems through discussions inside of the team.
- Simplicity is one more advantage of Extreme Programming projects. The developers who prefer to use this methodology create extremely simple code that can be improved at any moment.
- The whole process in XP is visible and accountable. Developers commit what they will accomplish and show progress.
- Constant feedback is also the strong side.It is necessary to listen and make any changes needed in time.
- XP assists to create software faster thanks to the regular testing at the development stage.
- Extreme Programming contributes increasing employee satisfaction and retention.

Extreme Programming disadvantages

- Some specialists say that Extreme Programming is focused on the code rather than on design. That may be a problem because good design is extremely important for software applications. It helps sell them in the software market. Additionally, in XP

projects the defect documentation is not always good. Lack of defect documentation may lead to the occurrence of similar bugs in the future.

- One more disadvantage of XP is that this methodology does not measure code quality assurance. It may cause defects in the initial code.
- XP is not the best option if programmers are separated geographically.

Advantages of ASD

Make discussion:-After the organization was given the task of completing the whole of a system, the manufacturer will make a detailed study of the system, and will hold discussions to seek agreement with what has been planned to build the system. After agreeing with what is planned, the manufacturer will make a little later to discuss, the process is repeated until all players are satisfied with what is required and the mission and vision have been achieved.

Get ideas:-From discussion can produce a good product because before these products have a lot of ideas given by the customer or anyone associated with the project. In addition, cost savings for using the same prototype when to make changes in the product.

Make demonstrate:-Make a demonstrated for the customer to show the results that have been made, if not satisfied with the results of the specific reasons, allowing the manufacturers to improve existing shortcomings.

Able to maintain good quality work:-By using the iterative cycle, this will take care of good quality work. In addition, developers plan more carefully and systematically to ensure the success of the system.

Disadvantages of ASD

Requires that public employees:-In completing a project that requires many workers. This will cause many problems, especially in the planning of projects and conflict of ideas between them. Besides that, the problems arise is in terms of division of tasks to carry out a project.

Time consuming:-In this methodology developers need time more to complete a project. This is because each is made is already planned. Before implementing any parts the project, it is be agree especially the manager. Every change takes time to change some parts of the project. This will be difficult for all involved to complete the project with a defined time

Advantages of Scrum:-

Scrum can help teams complete project deliverables quickly and efficiently:

- Scrum ensures effective use of time and money
- Large projects are divided into easily manageable sprints

- Developments are coded and tested during the sprint review
- Works well for fast-moving development projects
- The team gets clear visibility through scrum meetings
- Scrum, being agile, adopts feedback from customers and stakeholders
- Short sprints enable changes based on feedback a lot more easily
- The individual effort of each team member is visible during daily scrum meetings

Disadvantages of Scrum:-

Nothing is perfect, and the Scrum methodology is no exception. In some cases, Scrum is combined with other project management techniques that can help resolve some of these drawbacks:

- Scrum often leads to scope creep, due to the lack of a definite end-date
- The chances of project failure are high if individuals aren't very committed or cooperative
- Adopting the Scrum framework in large teams is challenging
- The framework can be successful only with experienced team members
- Daily meetings sometimes frustrate team members
- If any team member leaves in the middle of a project, it can have a huge negative impact on the project
- Quality is hard to implement, until the team goes through aggressive testing process