

## **CS555: Agile Methods for Software Development**

### **Homework 01**

**Question 1:** The Agile Manifesto includes 12 principles. Pick any three of the twelve principles and describe how the principle compares to the processes and procedures used in plan driven approaches that preceded Agile Methods. What are the advantages and disadvantages of these principles for small teams with up to 10 developers and for large teams with 100+ developers?

**Answer:**

Plan-driven processes are the processes where all of the process activities are planned in advance and progress is measured against this plan. Whereas, in agile methods, planning is incremental and it is easy to alter the software and plan to reflect changing customer requirements.

The Agile Manifesto principles I have chosen are as follows:

1. Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.
2. Business people and developers must work together daily throughout the project.
3. The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

**Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.**

In Agile methods, the starting results of the desired product should be given to the customers as soon as possible so that they can give their feedback and insights about what they really want. It is necessary to show the intermediate results to customers on a short regular basis so that the customer is satisfied on how his product is been developed. The fully functional team is working on the most important things for the user. While in plan-driven, the product might or might not be delivered at the end of each iteration based on the nature of the product. Some of the older plan-based approaches focuses on the product delivery only after the entire product is developed.

**Business people and developers must work together daily throughout the project.**

In Agile Methods, the business people are not just the customers whom the products need to be delivered but they are also the part of the team developing the desired product. The communication and collaboration need to be done right from the start until the end of the project. On the contrary, in plan-driven methods such as rational unified process, business people are seen as customers and interaction with them is very limited after starting of the two

phases. This neglects the very basic and one of the most important aspects of Agile i.e. cross-functional collaboration.

**The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.**

Agile Methods emphasize on person to person oriented informal and constant communication. The communication is not structured in contrast to plan-driven methods where the meetings and communication is structured and planned in advance. The developers and business people can communicate with the entire team or any other member anytime. The information can be conveyed either during the team meetings or by talking to the team member directly when needed.

#### **Advantages and Disadvantages of Agile Manifesto Principles for Small Teams:**

##### **Advantages:**

1. Teams are self-organized and easy to manage.
2. Provides better efficiency and productivity than large teams.
3. Face to face communication is possible.
4. Sustainable development can be achieved by maintaining constant pace of developing.
5. Providing support to team members to stay motivated is easy.

##### **Disadvantages:**

1. Cost effective only for simple project and for a short period of time.
2. If a member of team leaves the organization, it will have a huge impact on the development team.
3. Difficult to accommodate all the expertise required in one small team.

#### **Advantages and Disadvantages of Agile Manifesto Principles for Large Teams:**

##### **Advantages:**

1. Very effective for complex projects.
2. Large teams can be divided and can work as small teams to perform efficient and quick development.
3. Cross-functional and cross-component teams.
4. Easy to accommodate people having required expertise for the product development.
5. Development is not affected if one of the member leaves the organization

##### **Disadvantages:**

1. Face to Face communication is difficult to implement.
2. Less productive and efficient than small teams.
3. Difficult to tune and maintain same pace among all the members of the team.