

1.

There are many challenges and considerations when selecting and implementing a specific software development methodology for a project.

- Some of the most important challenges include: The size and complexity of the project: The size and complexity of the project will have a big impact on the methodology that is selected.
- The availability of resources: The availability of resources, such as time, money, and people, will also have an impact on the methodology that is selected.
- If there are limited resources, then a methodology that is more efficient may be required.
- The preferences of the development team: The preferences of the development team should also be considered when selecting a methodology.

2.

Agile approach is a style of software development that places an emphasis on adaptability and teamwork.

Agile projects are divided into brief, iterative sprints, with the project plan being regularly reviewed and adjusted as necessary.

The Agile methodology's guiding principles include Agile teams prioritize focusing on people involved in the project and their interactions with one another over processes and tools.

Agile teams prioritize the delivery of functional software over thorough documentation, as well as the documentation required to support that product.

Agile teams can adjust to changes in the needs or the environment instead of becoming stuck in a fixed plan. This is because they are more flexible than traditional teams.

3.

Traditional waterfall approaches and agile methodologies are different in several respects.

The following are some significant variations: While waterfall techniques are sequential, agile methodologies are iterative and incremental.

This indicates that while waterfall projects are built in a linear, sequential manner, agile projects are developed in small, iterative increments.

While waterfall techniques place more of an emphasis on planning and paperwork, agile methodologies prioritize flexibility and teamwork.

In contrast to waterfall approaches, which are better suited to projects with fixed needs, agile methodologies are better suited to projects with dynamic requirements.