

### Assignment 3:

Research and compare SDLC models suitable for engineering projects. Present findings on Waterfall, Agile, Spiral, and V-Model approaches, emphasising their advantages, disadvantages, and applicability in different engineering contexts.

Ans: **Real world project is netbanking project which is use Agile methodology**

1. **Flexibility:** Agile allows for flexibility in requirements, which is essential for a project like net banking where requirements might evolve based on user feedback, market trends, or regulatory changes.
2. **Iterative Development:** Agile's iterative approach enables the development team to deliver working increments of the net banking system at regular intervals, allowing for continuous improvement and adaptation to changing needs.
3. **Customer Collaboration:** Agile emphasises collaboration with stakeholders, including end users, throughout the development process. This is beneficial for net banking projects as it ensures that the system meets the needs and expectations of its users.
4. **Early Delivery:** Agile promotes early and frequent delivery of working software. This means that essential features of the net banking system can be delivered and tested early, providing value to customers sooner.
5. **Risk Management:** Agile provides mechanisms for identifying and mitigating risks early in the development process. This is important for net banking projects, where security and reliability are paramount concerns.

Certainly, here are the advantages and disadvantages of using the Agile software development model for a net banking project:

#### Advantages:

1. **Flexibility:** Agile allows for flexibility in responding to changing requirements, which is crucial for net banking projects that may need to adapt to evolving customer needs, regulatory requirements, or market conditions.
2. **Customer Collaboration:** Agile encourages continuous collaboration with stakeholders, including end users and business representatives. This ensures that the net banking system meets customer expectations and delivers value effectively.
3. **Iterative Development:** Agile's iterative approach enables the delivery of working increments of the net banking system at regular intervals. This allows for early feedback from stakeholders and facilitates the early detection and correction of issues.
4. **Early Delivery of Value:** Agile focuses on delivering high-value features early in the development process. This means that essential functionalities of the net banking

system can be implemented and deployed quickly, providing tangible benefits to customers sooner.

5. **Improved Quality:** Agile promotes a focus on quality throughout the development process. Continuous testing and integration help identify and address defects early, resulting in a higher quality end product.

#### **Disadvantages:**

1. **Resource Intensive:** Agile requires active involvement and commitment from all stakeholders, including dedicated team members and customers. This can be resource-intensive and may pose challenges for organisations with limited resources or competing priorities.
2. **Complexity of Implementation:** Implementing Agile practices effectively requires a cultural shift within the organisation and may involve changes to existing processes and workflows. This can be challenging and may encounter resistance from team members accustomed to traditional development methodologies.
3. **Lack of Predictability:** Agile's focus on flexibility and adaptation may lead to a lack of predictability in project timelines and deliverables. This can be problematic for net banking projects with strict deadlines or regulatory requirements.
4. **Dependency on Customer Availability:** Agile relies heavily on customer involvement and feedback throughout the development process. If customers are not readily available or engaged, it can hinder progress and impact the success of the project.
5. **Documentation Challenges:** Agile typically prioritises working software over comprehensive documentation. While this can accelerate development, it may lead to gaps in documentation, which can pose challenges for maintenance and knowledge transfer.

Overall, while Agile offers numerous benefits for net banking projects, such as flexibility, customer collaboration, and iterative development, organisations should carefully consider its potential drawbacks and ensure that they have the necessary resources and commitment to successfully implement Agile practices.