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TOPIC:

Agile Methodology Selection

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“Agile Methodology Selection”

Agile is an approach to project management that centers around incremental and iterative steps to completing projects. The incremental parts of a project are carried out in short-term development cycles. The approach prioritizes quick delivery, adapting to change, and collaboration rather than top-down management and following a set plan.

In the Agile process, there is continuous feedback, allowing team members to adjust to challenges as they arise and stakeholders an opportunity to communicate consistently. Though originally created for software development, the Agile approach is now widely used in executing many different types of projects and in running organizations.

What is Agile Methodology?

Enhancing the method of project handling through a well-developed framework and iteration, the agile methodology process is among the most effective ones used in MNCs. Agile methodology involves segregating the project into several phases, called sprints, which involve iteration until the required results are obtained. Devoted professionals document and handle the project to ensure quality reflection on overall tasks and improve them by modifying the strategy according to dynamic scenarios.

Agile methodologies are flexible. This is to allow developers to create software in whatever way is most suited to the circumstances that they are faced with. Agile methodologies draw on two different methods, each with their own drawbacks:

- **Traditional Waterfall Method** - Sometimes viewed as too rigid, unresponsive and reducing creativity.
- **Rapid Application Development** - Can result in a chaotic development process, requires strong leadership

Types of Agile Methodologies

1) Kanban

Kanban is an easy and visual project management method that allows teams to track progress and upcoming tasks. It uses a Kanban board with three columns: “To Do,” “Doing,” and “Done” to organize and manage tasks. Kanban suits teams with tasks of varying sizes and frequently changing product requirements. However, the Kanban methodology is not as straightforward as Scrum, so it may not be suitable for inexperienced agile teams. Kanban is often recommended for smaller teams that work on repetitive tasks and can operate independently without relying heavily on others. It is a good option if your team values fast product delivery and firmly understands agile best practices.

2) Scrum

Scrum is one of the most popular Agile methodologies, as it can bring teams together with a sharp focus and an efficient, collaborative approach to task execution. It is similar to Kanban in many ways. Scrum typically uses a Scrum board, similar to a Kanban board, and groups tasks into columns based on progress. Unlike Kanban, Scrum focuses on breaking a project down into sprints and only planning and managing one sprint at a time.

Under this methodology, you would assign a Scrum leader and product owner, who have a direct influence over the rest of the team. This assigned leadership can help teams to spearhead projects and complete them over a short space of time through a series of sprints. Bringing team members together from different departments, these sprints help you channel a collective focus to your projects.

Scrum also features a robust set of principles and activities that dictate how you work. These include:

- **Sprint planning:** Planning sessions to identify the purpose behind your sprints
- **Roles:** Key roles in the Scrum project management process
- **Product backlog:** A list of tasks arranged according to priority level

3) Extreme Programming (XP)

Extreme Programming (XP) is a methodology created for agile software development. It emphasizes continuous development and delivery to the customer. Like Scrum, it uses intervals or sprints. However, XP also has 12 specific processes designed for software development. These processes are tailored to ensure efficient and effective software development:

- Simple design
- Refactoring
- Pair programming
- Metaphor
- Collective code ownership
- Small releases
- Test-driven development
- Coding standards
- Planning game
- Sustainable pace
- Customer acceptance tests
- Continuous integration

4) Feature-Driven Development (FDD)

Feature-driven development (FDD) is related to agile frameworks specifically designed for software development. It involves creating software models every two weeks and requires a detailed development and design plan for each model feature. FDD has stricter documentation requirements than XP, making it suitable for teams with advanced design and planning skills. FDD breaks agile project management software down into five main activities:

- Build a feature list.
- Design by feature
- Plan by feature

- Build by feature
- Develop an overall model

FDD agile method is helpful for big software projects, especially in finance and banking. It helps speed up feature releases. However, it's not suitable for smaller projects. Consider using it when your project becomes too complex for a regular Scrum team, especially in organizations where only software development teams follow agile tools.

5) Lean

Lean development is often associated with the agile delivery model, but it's a distinct methodology with similar values. The leading principles of Lean methodology such as:

- Respect people
- Defer commitment
- Deliver fast
- Optimize the whole
- Continuously acquire and expand knowledge
- Reducing waste
- Focus on ensuring high quality from the beginning

The Lean methodology would benefit reliable teams with expertise that can be trusted to make crucial decisions independently. The Lean methodology works best for smaller teams that work well together and can handle more detailed documentation. However, it may not be as suitable for larger teams or those that struggle with cohesion.

6) Dynamic Systems Development Method (DSDM)

The creators of the Dynamic Systems Development Method (DSDM) designed it to provide a standardized framework for fast software delivery. DSDM acknowledges that changes and rework are regular and emphasizes the importance of reversibility.

Like Scrum, XP, and FDD, DSDM employs sprints or iterative cycles. This framework relies on eight fundamental principles:

- Build incrementally from firm foundations
- Communicate continuously and clearly
- Focus on the business need
- Collaborate
- Deliver on time
- Demonstrate control
- Develop iteratively
- Never compromise quality

DSDM agile frameworks are suitable for small and large projects, including complex ones. It's a good choice for teams comfortable with uncertainty and adapting to changing requirements. DSDM is particularly effective in corporate settings, where implementing other agile tools can be challenging.

7) Crystal

Crystal is a group of agile tools with different versions, such as Crystal Clear, Crystal Yellow, Crystal Orange, and Crystal Red. Each version has its framework. Choosing which to use depends on team size, priorities, and project importance. The Crystal project management process can be helpful for teams of different sizes. Crystal is a good choice for teams that communicate often and work well together without constant supervision from agile team management. However, inexperienced agile teams may find Crystal methodologies challenging as they have less defined structures and some areas that may require interpretation.

8) Adaptive Project Framework (APF)

The current framework in the agile methodology process is concerned with adapting to changes by the team, such as changing circumstances and project scope. It includes the breakdown of projects into phases or iterative cycles for the timely

identification and action on changing necessities. Subsequently, strategies are to be modified accordingly for timely delivery. This framework is suitable for IT projects or other dynamic ones.

9) ADS

Adaptive software development (ASD) is an Agile methodology that embodies the principle that continuous adaptation of the process to the work at hand is the normal state of affairs. It replaces the traditional waterfall cycle with a repeating series of speculating, collaborate and learn cycles.

10) LeSS

Large Scaled Scrum (LeSS) is an Agile methodology for scaling Scrum to multiple teams who work together on a single product. The LeSS framework seeks to apply the principles and ideals of Scrum in a large-scale enterprise context swiftly.

11) DAD Agile methodology framework

Disciplined Agile Delivery (DAD) is a people-first, learning-oriented hybrid project management approach to IT solution delivery. It has a risk-value delivery lifecycle, is goal-driven, enterprise aware, and scalable. It supports a robust set of roles, several delivery lifecycles, and provides choices, not prescriptions.

12) Agile development methodology IXP

Industrial Extreme Programming (IXP) has derived from Extreme Programming and follows the majority of its practices. It adds some new ones as well, such as readiness assessment, viability assessment, project chartering, storytelling, and others. IXPs key values are Communication, Simplicity, Learning, Quality, and Enjoyment. These second-generation methods come from meshing other Agile methodology or by trying to improve a single already existing method out there.

Agile Methodology Selection

Selecting the right Agile methodology for your project depends on various factors such as team size, project complexity, stakeholder involvement, and organizational culture. Below is a guide to help you make an informed choice:

1. Understand the Agile Frameworks

Familiarize yourself with the most common Agile methodologies:

- **Scrum:** Focuses on iterative development with fixed-length sprints and well-defined roles (e.g., Scrum Master, Product Owner). Best for teams with high collaboration.
- **Kanban:** Visualizes workflow on a board and emphasizes continuous delivery. Ideal for projects requiring flexibility and no fixed iterations.
- **Extreme Programming (XP):** Prioritizes engineering practices such as pair programming and test-driven development (TDD). Suitable for development-heavy projects.
- **Lean Development:** Focuses on minimizing waste and optimizing efficiency. Often used in startups or fast-paced environments.
- SAFe (Scaled Agile Framework): Designed for large-scale teams working on enterprise-level projects.

2. Assess Project Characteristics

Consider the following factors:

- **Project Size and Complexity:** Large, complex projects might require structured frameworks like SAFe or Scrum, while smaller teams may benefit from Kanban.
- **Stakeholder Involvement:** If stakeholders demand frequent updates, Scrum or XP may be a good fit.
- **Team Experience:** Experienced teams may adapt well to frameworks like Kanban, while less experienced teams might need more structured methodologies like Scrum.

- **Nature of Deliverables:** Projects with frequent changes in requirements often benefit from Agile's iterative nature.

3. Evaluate Team Dynamics

- **Team size:** Scrum typically works best for teams of 5-9 members.
- **Collaboration style:** If the team prefers flexibility, Kanban might be better; if they thrive on structure, Scrum is ideal.

4. Define Organizational Goals

Align the methodology with your goals:

- **Rapid Delivery:** Choose Kanban for continuous delivery or XP for fast-paced software development.
- **Improved Quality:** XP emphasizes high-quality code through practices like TDD.
- **Scalability:** Use SAFe or Scrum of Scrums for large organizations.

5. Pilot and Iterate

- Start with a pilot project to test the chosen methodology.
- Gather feedback and adjust the approach as needed.

6. Tools and Support

Select tools that complement the chosen methodology, such as Jira for Scrum or Trello for Kanban. Provide training and support to the team to ensure a smooth transition. By thoroughly analyzing your project requirements and team capabilities, you can select an Agile methodology that optimizes your workflow and enhances productivity.

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