

TECHNOLOGY



Coding Bootcamp

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Agile

Understanding Agile



Learning Objectives

By the end of this lesson, you will be able to:

- List the core values and principles of the Agile Manifesto for fostering effective collaboration and delivering high-quality product
- Implement Agile practices in a simulated project environment, demonstrating the application of Agile values and principles
- Adapt Agile techniques to address specific challenges in a given project scenario, showcasing flexibility and problem-solving skills
- Evaluate the benefits and challenges of implementing Agile to provide a balanced analysis of Agile methodology



What Is Agile?

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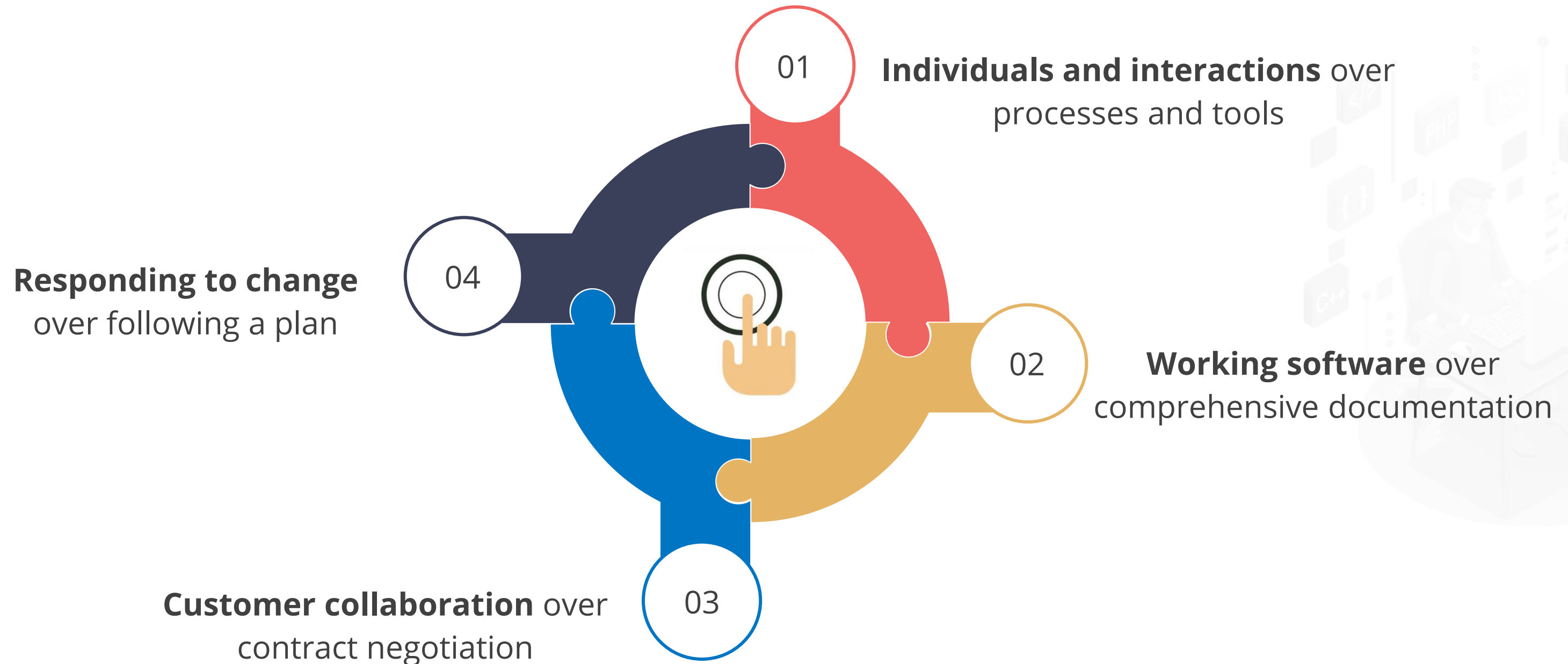
Agile is a flexible and iterative project management methodology that emphasizes collaboration, adaptive planning, and continuous improvement.



This methodology is used to build software incrementally using short iterations after equal time intervals.

What Is Agile Manifesto?

The Agile Manifesto is a foundational document for Agile methodology that outlines these four core values:



Agile Principles

The Agile Manifesto outlines twelve principles aimed at fostering an Agile mindset within a team:



Customer satisfaction: Prioritize customer satisfaction through early and continuous delivery of valuable software



Adapt to changes: Adapt to changing requirements, even late in development, to harness competitive advantages for the customer



Frequent delivery: Deliver working software frequently, preferring shorter timescales



Collaboration: Ensure businessmen and developers collaborate daily throughout the project

Agile Principles



Motivated teams: Build projects around motivated individuals by providing the environment and support they need and trusting them to complete the job



Communication: Use face-to-face conversation as the most efficient and effective method for conveying information within the developers



Progress measurement: Measure progress primarily through the delivery of working software



Sustainable development: Promote sustainable development by ensuring that sponsors, developers, and users maintain a constant pace indefinitely

Agile Principles



Technical excellence: Maintain continuous attention to technical excellence and good design to enhance agility



Simplicity: Maximize the amount of work not done through simplicity, focusing on what is essential



Self-organizing teams: Allow the best architectures, requirements, and designs to emerge from self-organizing teams



Regular reflection: Reflect at regular intervals on how to become more effective, and tune and adjust behaviors accordingly

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Agile Methodology

Agile Methodology

The Agile methodology is a framework that brings the Agile mindset into practice.

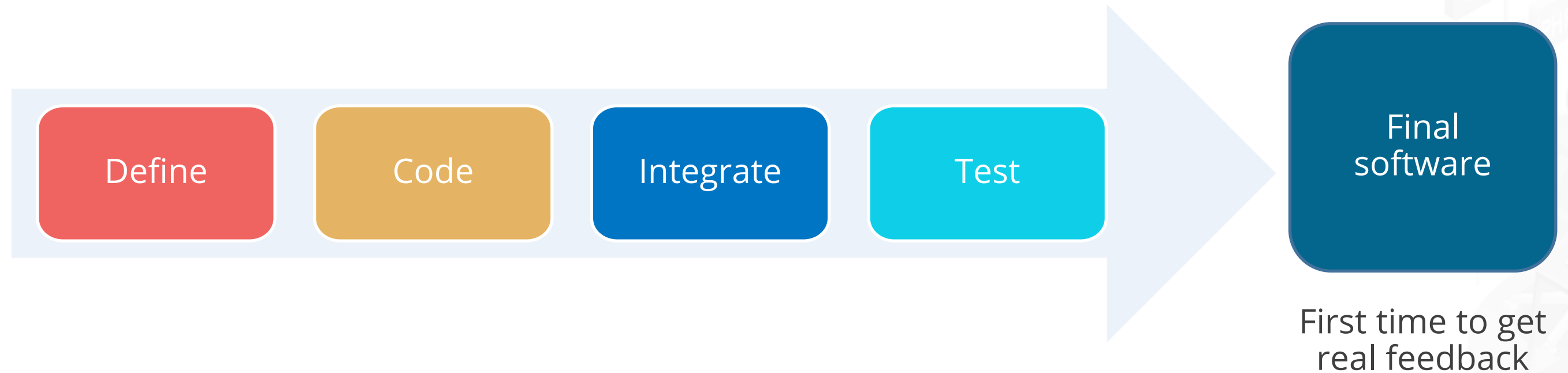


It is guided by the principles and values outlined in the Agile Manifesto and employs various frameworks and practices to achieve its goals.

Comparison Between Traditional and Agile Methodology

Traditional methods require up to ten months or more for single-stage development.

The following shows the different stages of developing an entire software:

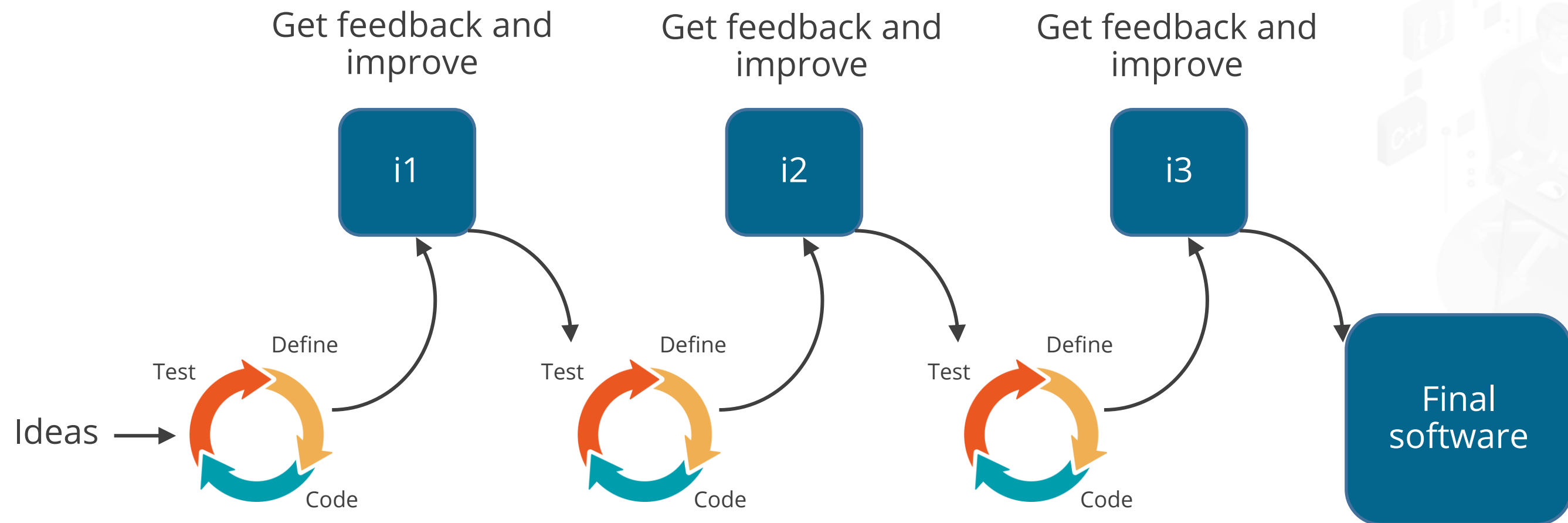


The primary drawback of the traditional way of software development is its inflexibility to adapt to changing requirements, leading to potential delays and outdated solutions.

Comparison Between Traditional and Agile Methodology

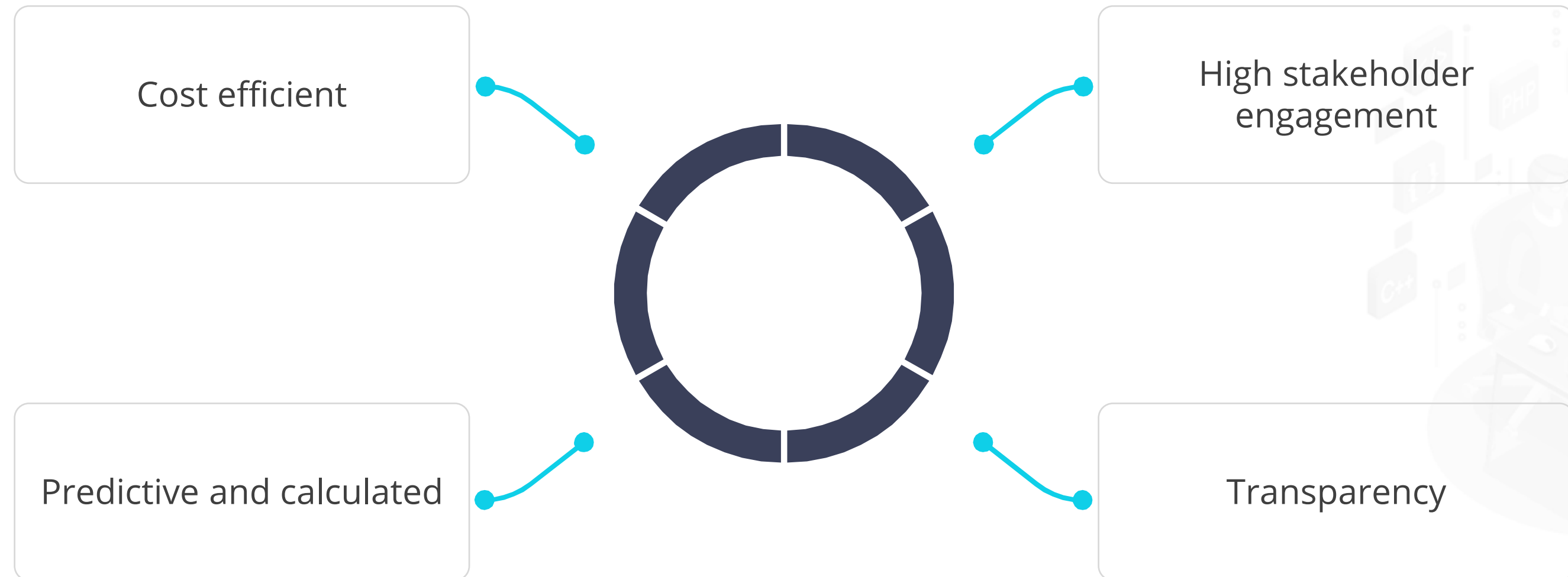
Agile is an iterative model; it helps the team get regular feedback after every cycle of development. Due to this, the team can also make any changes provided in the feedback.

The following shows the software development cycle in an Agile methodology:

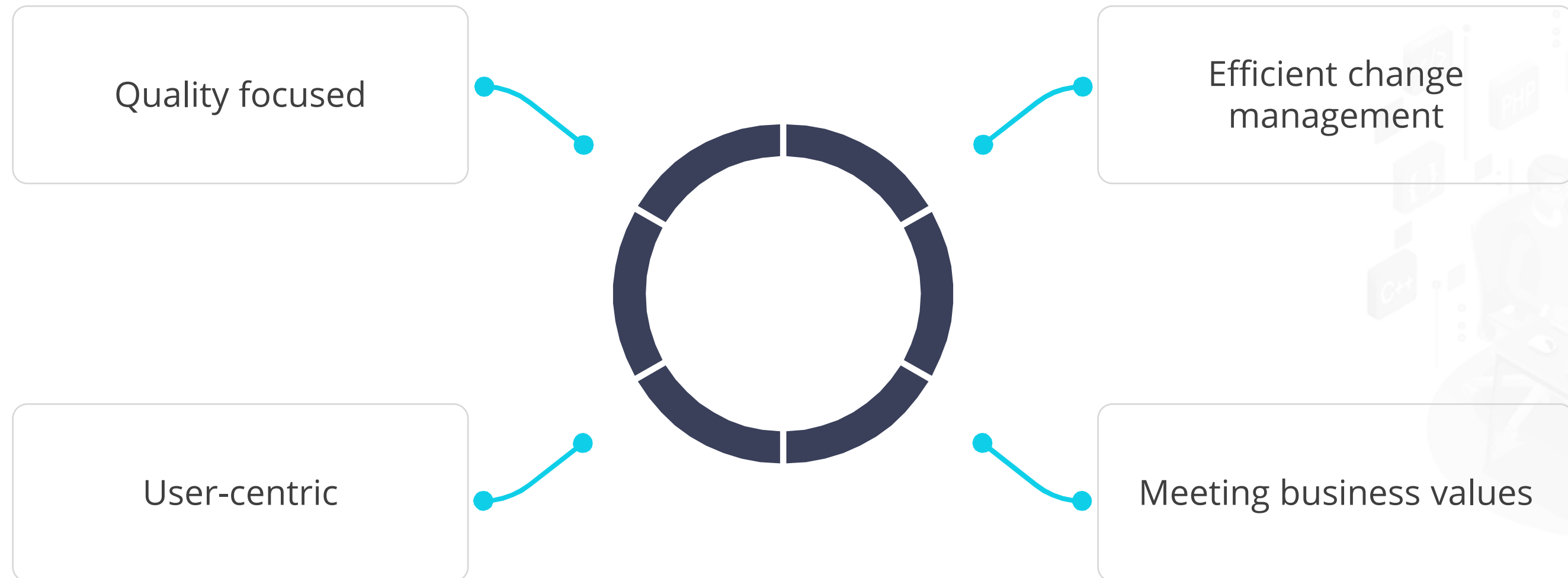


Benefits of Using Agile

Benefits of Using Agile



Benefits of Using Agile



Challenges of Using Agile

Challenges of Using Agile



Cultural shift requirement

Agile requires a significant shift in mindset from traditional project management approaches.



Team collaboration challenges

Agile emphasizes effective communication, which can be a challenge with distributed teams.



Stakeholder engagement issues

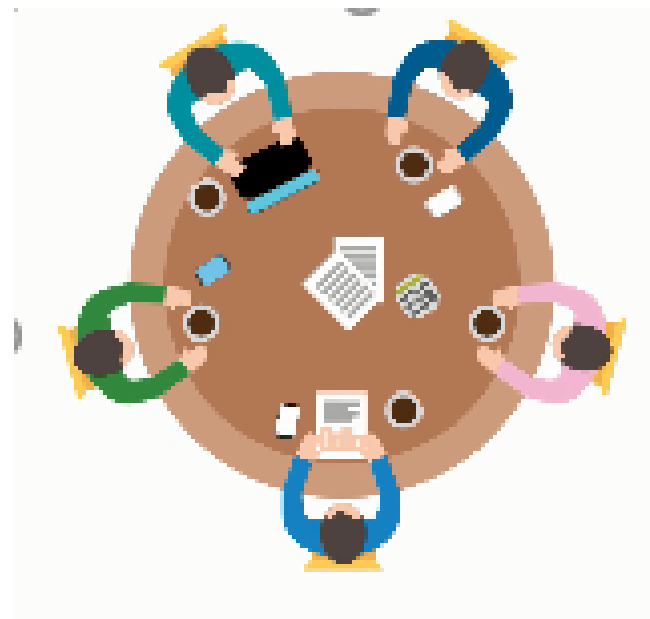
Stakeholders may not be fully invested in the Agile process, leading to inadequate support and resources.

Challenges of Using Agile



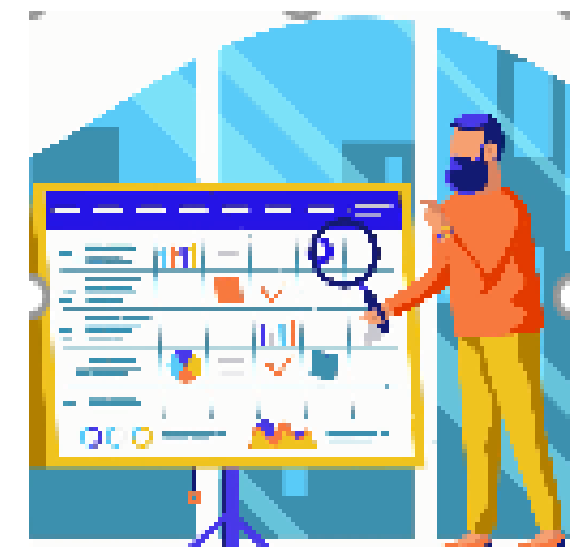
Inappropriate metrics

Agile values do not align with traditional metrics, which can make the transition challenging.



Safeguard from pitfalls

Since Agile welcomes changes, it can be challenging for the leader to save the team from losing focus.



Scaling difficulties

Agile is based on various frameworks like Scrum, Kanban, and Scrum of Scrums, which can be difficult to scale across teams.

Key Takeaways

- The adoption of Agile practices embraces quality and change management and boosts productivity.
- The Agile Manifesto is a foundational document for Agile methodology, outlining four core values and twelve principles for agile and flexible software development.
- The Agile methodologies and principles introduce the best practices for improving the quality of deliverables.
- High stakeholder engagement, predictions, and transparency are a few benefits of using Agile.
- Adopting Agile makes the team self-organized.



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Thank You