

Kanban and Lean Principles

Kanban is a visual workflow management method that helps teams optimize work, improve efficiency, and deliver value continuously. It is strongly influenced by Lean principles, which focus on eliminating waste and maximizing value.

What is Kanban?

Kanban is an Agile methodology originally developed by Toyota for manufacturing and later adapted for software development and other knowledge-based work. It emphasizes **visualizing work, limiting work in progress, and continuous improvement**.

Key Characteristics of Kanban

- Visual workflow management
- Continuous delivery (no fixed iterations)
- Pull-based system (work is pulled when capacity is available)
- Focus on efficiency and flow

Benefits of Kanban

- Improved productivity
 - Reduced bottlenecks
 - Faster delivery
 - Greater transparency
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Lean Principles

Lean principles provide the foundation for Kanban. They aim to deliver maximum customer value with minimal waste.

Core Lean Principles

1. **Eliminate Waste**
Remove activities that do not add value, such as delays, rework, and unnecessary processes.
2. **Build Quality In**
Ensure quality at every stage to avoid defects and rework.
3. **Create Knowledge**
Encourage learning and continuous improvement through feedback.

4. Defer Commitment

Make decisions at the last responsible moment to reduce risk.

5. Deliver Fast

Reduce cycle time to deliver value quickly to customers.

6. Respect People

Empower teams and promote collaboration.

7. Optimize the Whole

Focus on improving the entire system, not just individual parts.

What are Kanban Boards?

A Kanban Board is a visual tool used to represent the workflow and track the progress of tasks.

Structure of a Kanban Board

A basic Kanban board consists of columns that represent different stages of work: - **To Do** – Tasks waiting to be started - **In Progress** – Tasks currently being worked on - **Done** – Completed tasks

Tasks are represented using cards that move from left to right as work progresses.

Work in Progress (WIP) Limits

Kanban boards use WIP limits to control the number of tasks in each stage, preventing overload and improving flow.

Benefits of Kanban Boards

- Clear visibility of work status
 - Easy identification of bottlenecks
 - Improved team communication
 - Better task prioritization
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Conclusion

Kanban, supported by Lean principles, provides a powerful framework for managing work efficiently. By visualizing workflows and continuously improving processes, teams can deliver high-quality results faster and more reliably.