

# 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.

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## *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.
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## *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.