



Two-Day Course Outline: AI in Lean IT

Introduce participants to the integration of AI with Lean IT principles, focusing on foundational concepts and key applications like data-driven decision-making, predictive maintenance, and automated problem-solving.

Day 1: Foundations of AI in Lean IT and Key Applications

Objective: Introduce participants to the integration of AI with Lean IT principles, focusing on foundational concepts and key applications like data-driven decision-making, predictive maintenance, and automated problem-solving.

Duration: 8 hours (including breaks)

01

Introduction to AI in Lean IT (1.5 hours)

Topics:

- Overview of Lean IT: Core principles (waste reduction, continuous improvement, value creation, flow, pull, perfection).
- Role of AI in enhancing Lean IT: Efficiency, automation, and data-driven decision-making.
- How AI aligns with Lean goals: Accelerating innovation, improving productivity, and supporting human expertise.

Activities:

- Interactive discussion: Examples of inefficiencies in IT processes and how AI could address them.
- Case study: A brief real-world example of AI-driven Lean IT success (e.g., a company using AI for IT operations).

Learning Outcomes:

- Understand the synergy between AI and Lean IT.
- Recognize the potential of AI to transform IT processes.

02

Key Applications of AI in Lean IT – Part 1 (2 hours)

Topics:

- **Data-Driven Decision-Making:** How AI analyzes datasets to identify patterns, trends, and anomalies for strategic planning.
- **Predictive Maintenance:** AI algorithms for predicting IT infrastructure failures to prevent downtime.
- Real-world examples: AI in monitoring server health or network performance.

Activities:

- Group exercise: Analyze a sample dataset (provided) to identify patterns using a simplified AI tool or dashboard.
- Case study discussion: Predictive maintenance in an IT environment (e.g., cloud infrastructure).

Learning Outcomes:

- Understand how AI enables proactive decision-making and maintenance.
- Gain insights into practical tools for data analysis and failure prediction.

Day 1: Foundations of AI in Lean IT and Key Applications

03

Key Applications of AI in Lean IT – Part 2 (2 hours)

Topics:

- **Automated Problem Solving:** Using AI to identify root causes of inefficiencies or defects in IT processes.
- **Optimized Workflows:** Automating repetitive tasks and optimizing resource allocation for streamlined operations.
- Examples: AI-driven ticketing systems, resource scheduling, or process automation.

Activities:

- Hands-on workshop: Simulate an AI-driven root cause analysis using a mock IT process dataset.
- Group activity: Design a workflow for a repetitive IT task (e.g., user support tickets) and discuss how AI could optimize it.

Learning Outcomes:

- Learn how AI automates problem-solving and optimizes workflows.
- Develop skills to identify automation opportunities in IT processes.

04

Wrap-Up and Q&A (1 hour)

Topics:

- Recap of Day 1: Key applications of AI in Lean IT.
- Discussion: Challenges and opportunities in implementing AI in Lean IT.
- Preview of Day 2: How AI enhances Lean principles and delivers benefits.

Activities:

- Open Q&A session for participant questions.
- Reflection exercise: Participants write down one key takeaway from Day 1 and one question for Day 2.

Learning Outcomes:

- Consolidate understanding of Day 1 content.
- Prepare participants for deeper exploration of Lean principles and AI benefits.



Day 2: Enhancing Lean Principles with AI and Realizing Benefits

Objective: Explore how AI enhances Lean IT principles (waste reduction, value creation, flow, pull, perfection) and discuss the tangible benefits of this integration, with practical exercises to reinforce learning.

Duration: 8 hours (including breaks)

AI and Lean Principles: Waste Reduction and Value Creation

Session 1: AI and Lean Principles – Waste Reduction and Value Creation (1.5 hours)

Topics:

- **Waste Reduction:** How AI identifies and eliminates waste, including "unused information" waste.
- **Value Creation:** Streamlining processes and removing bottlenecks to deliver value to users.
- Examples: AI in reducing redundant data processing or optimizing software development cycles.

Activities:

- Group discussion: Identify types of waste in a sample IT process (e.g., excessive manual reporting) and propose AI solutions.
- Case study: A company using AI to reduce waste in IT service delivery.

Learning Outcomes:

- Understand how AI aligns with Lean's waste reduction and value creation goals.
- Identify opportunities to apply AI for waste elimination in IT.

Session 2: AI and Lean Principles – Flow, Pull, and Perfection (2 hours)

Topics:

- **Flow and Pull:** How AI supports real-time data for pull-based systems and smooth workflows.
- **Perfection (Kaizen):** AI's role in continuous monitoring, predictive insights, and faster Kaizen cycles.
- Examples: AI-driven Kanban boards or real-time process monitoring tools.

Activities:

- Hands-on exercise: Design a pull-based IT workflow using AI tools (e.g., automated task prioritization).
- Simulation: Use a mock AI tool to test hypotheses for process improvement in a Kaizen cycle.

Learning Outcomes:

- Learn how AI enables flow and pull in IT processes.
- Understand AI's role in accelerating continuous improvement.

Benefits of AI in Lean IT

Increased Productivity

Streamlined processes and resource optimization.

Improved Quality

AI-driven quality control and error reduction.

Faster Innovation

Accelerating product development through data-driven iteration.

Greater Efficiency

Reducing costs through automation and optimization.

Session 3: Benefits of AI in Lean IT (2 hours)

Topics:

- **Increased Productivity:** Streamlined processes and resource optimization.
- **Improved Quality:** AI-driven quality control and error reduction.
- **Faster Innovation:** Accelerating product development through data-driven iteration.
- **Greater Efficiency:** Reducing costs through automation and optimization.

Activities:

- Case study analysis: A company achieving productivity and quality gains through AI in Lean IT.
- Group project: Develop a plan to integrate AI into an IT process, focusing on one benefit (e.g., productivity or quality).

Learning Outcomes:

- Understand the tangible benefits of AI in Lean IT.
- Develop skills to plan AI integration for specific IT outcomes.

Action Planning

Session 4: Course Capstone and Action Planning (1 hour)

Topics:

- Recap of key learnings: AI applications, Lean principles, and benefits.
- Steps to implement AI in Lean IT: Identifying opportunities, selecting tools, and measuring success.
- Future trends: The evolving role of AI in Lean IT.

Activities:

- Group presentations: Share action plans from Session 3 group project.
- Individual exercise: Create a personal action plan to apply one AI in Lean IT concept in participants' workplaces.
- Q&A and course feedback.

Learning Outcomes:

- Synthesize course content into actionable strategies.
- Develop confidence to apply AI in Lean IT principles in real-world settings.