Accelerating Process Improvement with Generative AI

Sasha Hoppie
Mercer University
Macon, Georgia
sashahoppie2003@gmail.com

Abstract

This poster explores how generative AI tools like ChatGPT, Claude, and Gemini can support and accelerate traditional process improvement activities in industries and organizations. The focus is on how these AI systems can assist with generating structured outputs for core Lean tools such as fishbone diagrams, affinity diagrams, and A3 problem-solving reports. By analyzing defect data, categorizing root causes, and offering instant drafts of problem-solving narratives, these tools can help teams reduce the time spent on manual analysis while maintaining a structured, data-driven approach. The poster will include real-world examples, prompt templates, and comparison timelines to show the difference in effort and quality when using AI support. The goal is to highlight how these tools can be integrated into existing continuous improvement practices to make them more accessible, collaborative, and scalable.

Keywords
ChatGPT, Claude, Gemini