

GenAI-Based Product Manager - Are We There Already? A Case Study from the Manufacturing Sector

Aron WITKOWSKI and Andrzej WODECKI

Warsaw University of Technology, Warsaw, Poland

Correspondence should be addressed to: Aron WITKOWSKI, aron.witkowski.dokt@pw.edu.pl

* Presented at the 44th IBIMA International Conference, 27-28 November 2024 Granada, Spain

Abstract

This study aims to explore the feasibility and effectiveness of utilizing Generative Artificial Intelligence (GenAI) solutions in product management within the manufacturing sector. It seeks to evaluate whether current GenAI capabilities can fulfill the complex requirements of product management and deliver comparable outcomes to human counterparts. This research involved the creation of a support application for product managers. The application was designed to assist in various aspects of product management decision-making and problem-solving tasks. To evaluate its effectiveness, a study was conducted involving ten experienced product managers from the manufacturing sector. These professionals were tasked with proposing and providing feedback on the tool's responses to common questions and challenges they encounter in their daily work. The study employed a mixed-methods approach, combining quantitative assessments of the tool's performance with qualitative interviews to gather detailed insights into the user experience and perceived value of the application. The findings reveal that GenAI solutions used in the product management process have significant potential for brainstorming typical tasks related to problem-solving and decision-making. However, there are limitations regarding the level of detail in the responses. Nonetheless, the case study demonstrates that GenAI is capable of augmenting human capabilities in this area. This research provides an analysis of GenAI's role in product management within the manufacturing industry, contributing to the limited body of literature on the application of GenAI used as a support in problem solving and decision making in this domain. It offers practical insights into the current capabilities of GenAI, helping organizations make informed decisions about integrating advanced AI into their product management strategies. For academia, the study suggests new avenues for research in AI-human collaboration and the development of advanced AI systems capable of higher-level managerial functions. Practically, it provides industry professionals with a nuanced understanding of how GenAI can be leveraged to enhance problem solving and decision making in product management, guiding investments in AI technologies.

Keywords: Generative Artificial Intelligence, Large Language Models, Product management, Manufacturing, New Product Development, Tree-of-Thoughts