

An AI-Driven Decision Support System for Product Feature Prioritization in Software Startups

About

This study investigates the potential of an AI-based decision support system for prioritizing product features within software startups. Using a design science research methodology, the authors developed a proof of concept (PoC) tool that uses AI to score features based on criteria like ROI and time-to-value. The PoC was then demonstrated to and evaluated by seven software entrepreneurs through semi-structured interviews to gauge its perceived usefulness and potential for adoption.

Problem

Software startups operate in fast-paced, uncertain environments with limited resources, making the prioritization of new product features a critical and constant challenge. Decisions are often made based on intuition or incomplete information, creating a need for more structured, data-driven approaches. This research addresses the gap by exploring how AI can enhance the feature prioritization process, which is currently often ad-hoc and subjective in startups.

Study Outcome

- Startups perceive AI as a useful aid for feature prioritization but not as a replacement for human decision-making and judgment.
- The adoption of AI prioritization tools is contingent on improving their transparency, explainability, interoperability with existing workflows, and overall usability.
- The conversational nature of the AI tool was found to be effective in forcing users to deliberately reflect on the value and metrics of each feature.
- Trust in the AI's output is directly linked to understanding its reasoning; users need to be able to justify the AI's suggestions to other stakeholders.
- Visual representation of the prioritization scores was a key strength, helping teams make faster, more objective decisions.

Keywords

Artificial Intelligence • Feature Prioritization • Software Product Management • Tech Firms • New Venture • Early-Stage Company