

## Exploring a Conceptual Approach For Evaluating the User Experience and Subjective Field Performance of Passive Industrial Exoskeletons

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### ABSTRACT

**Objective:** This study aims to establish a conceptual approach for evaluating the user experience and subjective field performance of passive industrial exoskeletons. The study will contribute to the understanding of the user experience and subjective field performance of these exoskeletons and propose a framework for evaluating them in future research. The goal is to inform the development and implementation of more effective and user-friendly exoskeletons in the workplace, improving worker safety and productivity. **Method:** Subjects who use passive industrial exoskeletons in their work will be recruited in various industrial sectors. Various methods for data collection, such as surveys, interviews, and observation will be adopted. Surveys would be used to collect quantitative data on aspects such as comfort, usability, and fatigue levels. Interviews could provide more detailed qualitative data on the user experience of passive industrial exoskeletons, including any challenges or benefits experienced. Observations could be used to gather information on the use of exoskeletons in the field. **Findings:** The quantitative data collected from the surveys will be statistically analyzed. The qualitative data from interviews and observations will be potentially identify common themes and patterns in the data. **Conclusion:** Conclusions based on the findings of the study can support the continual improvement toward a framework for evaluating the user experience and subjective field performance of passive industrial exoskeletons in future research.

**Keywords:** Passive industrial exoskeletons, user experience, subjective field performance, mixed-methods research design, human factors ergonomics

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