ENHANCING ORGANIZATIONAL PERFORMANCE: HARNESSING AI AND NLP FOR USER FEEDBACK ANALYSIS IN PRODUCT DEVELOPMENT

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ABSTRACT

This paper explores the application of AI and NLP techniques for user feedback analysis in the context of heavy machine crane products. By leveraging AI and NLP, organizations can gain insights into customer perceptions, improve product development, enhance satisfaction and loyalty, inform decision-making, and gain a competitive advantage. The paper highlights the impact of user feedback analysis on organizational performance and emphasizes the reasons for using AI and NLP, including scalability, objectivity, improved accuracy, increased insights, and time savings. The methodology involves data collection, cleaning, text and rating analysis, interpretation, and feedback implementation. Results include sentiment analysis, word cloud visualizations, and radar charts comparing product attributes. These findings provide valuable information for understanding customer sentiment, identifying improvement areas, and making data-driven decisions to enhance the customer experience. In conclusion, promising AI and NLP techniques in user feedback analysis offer organizations a powerful tool to understand customers, improve product development, increase satisfaction, and drive business success.

Keywords: Artificial Intelligence (AI), Natural Language Processing (NLP), organizational performance, user feedback

1. INTRODUCTION

User feedback analysis is the process of collecting, organizing, and analyzing feedback from users of a product or service (De Vreede & Briggs, 2019). This feedback can come from various sources such as surveys, customer support tickets, social media posts, or direct comments from users (Leinonen, Hämäläinen, & Juntti, 2009; Bistritz & Leshem, 2018; Francis, Mehta, & Ananya, 2016). The purpose of user feedback analysis is to understand the experiences and perspectives of users, identify areas for improvement, and inform decision-making related to product development and customer experience (Ali, Hong, & Chung, 2021; Dąbrowski et al., 2019). Effective user feedback analysis based on Martikainen's research can help organizations to better understand their customers, improve their products and services, and ultimately drive business success (Kujala, 2008; Bragge, Merisalo-Rantanen, & Hallikainen, 2005; Cvitanovic et al., 2015).

1.1 Influences on Organizational Performance
Analysis of user feedback using AI and NLP techniques can bring significant meaning to organizational behavior in several ways:

Identifying customer preferences and needs: By analyzing user feedback, organizations can gain insights into how users perceive their products or services (Gensler et al., 2015). This analysis can help identify the features and aspects of a product that users value the most, allowing organizations to better understand customer preferences and needs. This knowledge can guide decision-making processes, such as product development or marketing strategies, enabling organizations to align their offerings with customer expectations (Intezari & Gressel, 2017).