

The Assessment Procedure for AI-Driven Academic Writing Tools Utilizing OWCM and PIV Methodologies

Erdem Aksakal

Department of Industrial Engineering
Atatürk University, Erzurum, Türkiye
erdem.aksakal@atauni.edu.tr

Emre Caliskan

Department of Industrial Engineering
Gazi University, Ankara, Türkiye
ecaliskan@gazi.edu.tr

Abstract

AI-based academic writing tools are used more often in academic writing today. However, choosing the best tool is not easy because they are different in performance, usability, and risk. This study looks at seven different tools using six criteria: cost and accessibility, language performance, writing ability, grammar and tone, usability and integration, and trust and privacy. The main aim is to find the most suitable tool for academic writing by using a structured decision method. The weights of the criteria were calculated with the Opinion Weight Criteria Method (OWCM). The final ranking was calculated using the Proximity Indexed Value (PIV) method to reduce ranking problems. The results show that an LLM-based tool is the best option, and a traditional writing tool is the second-best option. Overall, the results suggest that LLM-based systems are the most suitable for academic writing among the evaluated tools.

Keywords

Writing tools, AI, MCDM, OWCM and PIV.

Biographies

Erdem Aksakal is an Assistant Professor of Industrial Engineering at Atatürk University, Erzurum. He completed his BS education at Cankaya University, Ankara and MS & PhD at Gazi University, Ankara. He has published 10 journal/chapter and 28 conference papers. His research interests include optimization theory and methods, multiobjective optimization, ergonomics and occupational safety, work measurement and methods engineering, strategic planning, technology and innovation management, decision theory, and multi criteria decision making.

Emre Caliskan is an Assistant Professor at Department of Industrial Engineering of Gazi University, Ankara. He earned BS, Masters, and Ph.D. degrees in Industrial Engineering from Gazi University, Ankara. His research interests include optimization theory and methods, simulation, decision theory, multi criteria decision making, and supply chain and logistics management.