

STUDY AND PRIORITIZATION OF GLOBAL SUPPLY CHAIN INTEGRATION INFLUENCING VARIABLES USING FUZZY AHP AND FUZZY TOPSIS

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To be competitive in the current digital business environment, well-equipped supply chain integration strategies are essential. For these systems, the supply chain integration variables affect many aspects of the supply chain system and the manufacturing process as well. But there is a lack of research in the literature to evaluate and investigate the levels of influence variables that impact on supply chain integration. The purpose of this paper is to investigate and evaluate the influence variables that impact the performance and effectiveness of supply chain integrations on the firms. Thus, both fuzzy AHP and fuzzy TOPSIS approaches are proposed in determining the relative importance (weight) of criteria and then ranking of driving factors. Then through evaluating and ranking the decision-making criteria, the system most influencing variables on supply chain integration is determined. Subsequently, the ranking & evaluation results are presented and comparative analysis on fuzzy AHP and fuzzy TOPSIS tools are applied. This evaluation and prioritization of driving variables are provided to contribute to the future model development and make an action to supply chain integrations process improvements

Biography

Alie Wube Dametew is currently a PhD student at School of Mechanical and Industrial Engineering, Addis Ababa University Institute of Technology-Ethiopia and Faculty of Engineering Technische Hochschule Nürnberg Georg Simon Ohm-Germany. His research interests include innovation, manufacturing process improvement, productivity and technology systems, modelling and analysis of manufacturing systems, big data mining and cloud computing, innovative supply chain, industrial logistic improvement analysis, innovation and technology transfers, advanced and smart materials, climate change sustainability and renewable energy improvements. He has published more than 21 papers within more than 16 papers are published under preview international journal and more than 5 papers were published at national and international levels. So far, he worked as Lecturer and Head of Research and community Service in Wollo University Kombolcha Institute of Technology. He has also worked as continuous Improvement Expert and Production Supervisor in manufacturing companies and has sufficient experience on industrial plant project studies.

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