Exploring AI Application Location in Oil and Gas Supply Chain

Thejas Vivek
Faculty of Engineering
Qatar University
Doha, Qatar
thejasvivek12@gmail.com

Ahmed Deif
Department of Industrial Technology and Packaging
California Polytechnic State University
San Luis Obispo, CA 3407, USA
adeif@calpoly.edu

Abstract

This research explores the application of artificial intelligence (AI) in the oil and gas supply chain management. A location perspective is adopted to understand the dynamics of AI technologies from upstream to downstream of the oil and gas supply chain. The paper uses a literature review approach to capture representative research along the whole supply chain. A descriptive and comparative analysis for the reviewed papers were conducted to gain a better understanding of the opportunities and challenges of AI in this industry's supply chain. Results from the conducted analysis revealed important insights about AI implementation dynamics in the oil and gas industry. Furthermore, various recommendations for the technology managers, policymakers, practitioners and industry leaders in the oil and gas industry to ensure successful AI implementation were outlined

Keywords
Artificial intelligence; Supply chain; Oil and gas

Biography
Thejas Vivek is a researcher at Qatar University. He received his M.SC. in Engineering and Industrial Management from Qatar University and his B.Tech. in Mechanical Engineering from Vellore Institute of Technology in India. His current research interests are in innovation in supply chain management and industrial technology.

Ahmed Deif, Ph.D. P.Eng. Dr. Deif is an Associate Professor of Operations & Supply Chain Mgmt. at the Department of Industrial Technology and Packaging at California Polytechnic State University. Before joining Cal Poly, he was an Assistant Professor at multiple universities (University of Regina, Canada, University of Windsor, Canada, and Nile University, Egypt). His current research interests are in digital supply chain mgmt.., optimal manufacturing, and service planning & control, lean and green manufacturing/service systems, and dynamic analysis of manufacturing systems. Dr. Deif has more than 75 publications in books, international journals, and refereed conferences. Dr. Deif has a diverse portfolio in his industrial experience ranging from the automotive industry where he worked at the R&D center at Chrysler Canada to the steel industry to electronic industry and finally assembly industry at various engineering and consultancy capacities. As a lean and six sigma certified expert, he helped various industries in improving their production performance and conducted various lean and six sigma trainings in the US, Canada, and the Middle East over the last 20+ years. Dr. Deif is a senior member of SME and member of IIE, APICS, ATMAE, and IEOM. He is a fellow faculty of the Center of Innovation & Entrepreneurship and Central Coast Lean center.