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The modeling of environmentally responsible supply chains

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Inventory management and supply chain management are integral issues and prime areas of concern in production and operations management, and industrial engineering. There is a drive for businesses and organizations to be accountable for their environmental impacts. Guaranteeing environmentally conscious supply chain operations is strongly linked to an organization's sustainability and overall success. The responsible management of forward and return product flows in production and inventory environments is a rapidly increasing requirement. This can be attributed to economic, environmental and/or regulatory motivations. Mathematical modeling of such systems assists decision-making processes and provided a better understanding of the behavior of such production and inventory environments. The overall purpose of this research is to provide a practical tool that can be used by businesses and organizations in the industry to allow them to improve their supply chain operations environmentally without hindering their economic goals. Special focus is given to the mathematical modeling of greenhouse gas emissions from production processes and transportation activities, energy usage for manufacturing operations, and solid waste disposal in a supply chain context.

Biography

Ehab Bazan is currently a PhD candidate at Ryerson University in the Department of Mechanical and Industrial Engineering. He has completed his Masters of Applied Science at Ryerson University and his Bachelors of Science in Mechanical Engineering (Design and Production) from Ain Shams University in Cairo, Egypt. His industrial experience stems from his five years of training and consulting with Allied Training and Consulting in Cairo, Egypt and continuously seeks to use this practical approach in his research. His current research interests include: supply chain management, inventory systems, green supply chain management, and environmentally responsible supply chains.

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