

Guest Editorial Preface

Special Issue of Intelligent Approaches for Scheduling and Logistics Management

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The guest editors of this special issue believe that emerging technology and use of intelligent approaches has changed the face of logistics and supply chain management. The realisation of the need for advancement comes from customers' expectations of transport and logistics services that have increased. Transport companies must use emerging technologies to improve the services offered to customers. Adoption of emerging technologies such as AI, IoT, distributed systems and automation have enhanced and greatly changed the flow of goods from the manufacturers, retailers, or wholesalers until it gets to the customers. It has brought a paradigm shift to the sector through improvement in efficiency, reduction of costs, increased competitiveness, and changes in strategies.

Developing advanced and necessary logistics solutions is possible with the right technical approach, even for the most complex supply chains. This special issue "Intelligent Approaches for Scheduling and Logistics Management" discusses recent developments and proposes solutions in several areas of logistics such as Supply Chain Management Systems "Supply Chain Efficiency and Effectiveness Management Using Decision Support Systems" & "AI-Assisted Dynamic Modelling for Data Management in a Distributed System" articles, Warehouse Management Systems "Internet of Things-Enabled Logistic Warehouse Scheduling Management With Human Machine Assistance" article, Transport Management Systems "Swarm Intelligence Technique for Supply Chain Market in Logistic Analytics Management" Article, Custom Management Systems "Information Management in the Logistics and Distribution Sector Using Metaheuristic Techniques" article, and Fleet Management Systems "Logistic Management in the Supply Chain Market Using Bio-Inspired Models With IoT Assistance" Article.

To meet the surge in activity and growth in interest, a range of perspectives and insights is offered in this collection of papers, which broadly addresses these related spheres of supply chain management, emerging technologies, and automation. These papers (10 accepted out of 21 submitted papers) will provide insight and acquaintance with some of the key issues that presently engage the research community in this intersection of technology-centric activities.

The first paper in this special issue focuses on cold-chain logistics and schedule management, followed by this work. The paper title is "Application of Cold-Chain Logistic and Distribution System Using Deliver Schedule Management." The author proposes a delivery schedule management approach using the artificial intelligence technique. This approach manages the cold-chain logistics and delivery schedule management across the production systems. It provides comparatively better performance than conventional approaches.

The second paper attempts to apply the swarm intelligence concepts to marketing management approaches. The paper title is “Swarm Intelligence Technique for Supply Chain Market in Logistic Analytics Management.” The author focuses on supply chain marketing management with swarm intelligence modeling approaches. It helps in efficient logistics and supply chain management with improved productivity. The third paper focuses on logistic warehouse management. The paper title is “Research on Logistic Warehouse Scheduling Management With IoT and Human-Machine Interface: Logistic Warehouse Scheduling Management With IoT.” The authors propose a human-machine interface with IoT techniques for logistics and warehouse scheduling management. The human-machine interface proposed here helps in engaging the users and assists in improving productivity measures. The next focuses on the decision support system to improve the efficiency of the supply chain system. The paper title is “Supply Chain Efficiency and Effectiveness Management Using Decision Support Systems.” The author proposes an artificial intelligence-assisted decision support system for enhancing the efficiency of the supply chain management system. This approach helps in timely decision-making and provides better performance.

The fifth work is on enhancing the cultural aspects of supply chain management across the Chinese regions. The paper title is “Institutional and Cultural Aspects of Logistic Management in the Chinese E-Commerce Sector.” The authors propose intelligent approaches for predictive modeling of the supply chain processes and decision-making.

The objective of the next (sixth) research work is to empower the effectiveness of supply chain systems with bio-inspired models. The paper title is “Logistic Management in the Supply Chain Market Using Bio-Inspired Models With IoT Assistance.” The author proposes a bio-inspired model based on IoT for enhancing logistic management. The seventh article is on efficient information management across logistics systems. The paper title is “Information Management in Logistic and Distribution Sector Using Metaheuristic Techniques.” The authors propose a metaheuristic approach to improve the productivity and distribution of logistic goods and services with efficient planning and decision-making.

Consequently, the next work focuses on logistics analytics management. The paper title is “Logistic Analytics Management in the Service Supply Chain Market Using Swarm Intelligence Modeling.” The authors have proposed a swarm intelligence-based approach for efficient logistics management. It also helps in predictive analytics and risk management. The next article (ninth) focusses on logistics warehouse management. The paper title is “Internet of Things-Enabled Logistic Warehouse Scheduling Management With Human Machine Assistance.” An efficient human-machine interface approach with IoT technique is proposed for scheduling. Finally, the last paper title is “AI-Assisted Dynamic Modeling for Data Management in a Distributed System.” The authors present an artificial intelligence-assisted data management and modeling efficient data management in logistics systems. It also helps in decision-making processes.

Finally, we strongly believe this special issue will significantly impact the research community, hence we thank all the authors and reviewers for their contributions.

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