

Artificial Intelligence in Automotive Supply Chain Management: A Review

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Abstract: Artificial intelligence (AI) has become an increasingly important area of interest within supply chain management, particularly in data-intensive and complex industries such as automotive manufacturing. This paper presents a narrative integrative literature review examining existing research on AI applications in automotive supply chain management, with a focus on technological uses and organizational implications. The review synthesises studies addressing AI-based approaches to demand forecasting, inventory planning, logistics optimization, and production management. The analysis highlights several recurring challenges, including data quality limitations, system integration difficulties, cybersecurity risks, and organizational resistance. Drawing on the SCOR framework and the Triple-A supply chain model, the paper offers a conceptual structure for understanding how AI is positioned within operational and strategic supply chain processes. The review also identifies gaps in current research, particularly in relation to developing economy contexts and ethical governance issues, and outlines directions for future empirical investigation.

Keywords: Artificial Intelligence, Supply Chain Management, Demand Forecasting, Inventory Optimization, Automotive Industry

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