

Navigating Industry 5.0: A Review of Operations and Supply Chain Management Perspective

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Introdução

Industry 4.0 brought about a significant change in manufacturing and industrial processes by integrating digital technologies such as the Internet of Things (IoT), artificial intelligence, big data analytics, and automation. However, Industry 5.0 advances the concept of Industry 4.0 by emerging as a concept that emphasizes the reintegration of human-centred approaches alongside advanced technologies. Hence, this study aims to explore current advancements and trends in Operations and Supply Chain Management (OSCM) within the context of Industry 5.0.

Problema de Pesquisa e Objetivo

Despite ample opportunities and prior research in the domain of Industry 4.0, the discourse surrounding Industry 5.0 within the OSCM sphere remains fragmented, scattered across different subtopics, and notably lacking in providing a comprehensive overview. Thus, this paper aims to understand how does Industry 5.0 interact with OSCM field by assessing recent studies from the field within Industry 5.0.

Fundamentação Teórica

In this context, the European Commission (2021) highlights that Industry 5.0 marks a transformative shift in industrial ethos, prioritizing societal well-being alongside efficiency and productivity. It places the welfare of workers at the forefront, leveraging new technologies to foster prosperity that extends beyond mere job creation and economic growth, while respecting the planet's finite resources. This shift places a stronger focus on human needs and values, along with increased resilience and attention to sustainability.

Discussão

Industry 5.0 places a greater emphasis on sustainability and circular economy principles, aiming to minimize environmental impact and promote resource efficiency. To this end, Industry 5.0 extends beyond traditional concepts like automation or production productivity to incorporate emerging technologies such as edge computing and AI-driven decision-making systems, digital twins, big data analytics in different emerging themes, such as sustainable development and circular economy, improving decision-making process and enhancing human capabilities.

Conclusão

The research categorized the literature into four main areas of interconnection of Industry 5.0 and the OSCM field: "Sustainability and Circular Economy", "Performance", "Decision-Making", and "Human-Technology Collaboration". From leveraging 146 papers over the period of 2019-2024, this study identified key themes, sources of papers and authors, relevant keywords and their network.

Referências Bibliográficas

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