# Optimizing Supply Chain Management Operations in Construction: A Systematic Review of SCM Trends, Challenges, and Innovations

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# ABSTRACT:

This extensive literature study delves into various facets of supply chain management (SCM) within the construction industry, offering a critical review of contemporary theories and practices. The research spans diverse topics such as contract termination management, claims processes, green supply chain management, and the integration of Industry 4.0 technologies. Through systematic literature reviews, analytical studies, and empirical investigations, the study explores challenges, best practices, and emerging trends in SCM. The development of reference models, analysis of key performance indicators, and validation through expert interviews contribute to a holistic understanding of SCM in construction. The study also addresses gaps in research, proposes frameworks, and identifies future directions for sustainable and efficient supply chain practices. The research identifies a gap in the exploration of side-payment contracts for coordinating buffer space and addresses the challenges of applying previous supply chain management (SCM) studies directly to the construction domain. The introduction of the Buffer Space Holding (BSH) strategy as a means to enhance total profit and individual party profits sheds light on potential improvements in SCM practices. The study also underscores the impact of reserving more shelf space on additional sales and greater profit potential. In summary, this literature study contributes a rich understanding of SCM in construction, spanning claims management, contract termination, green practices, and emerging technologies. The findings offer valuable insights for practitioners, policymakers, and researchers, providing a roadmap for future advancements in construction supply chain management.

**KEYWORDS:** Supply Chain Management, Construction Industry, Contract Termination, Green Supply Chain Management, Sustainability and Smart Construction Objects.

# INTRODUCTION:

In the dynamic landscape of the construction industry, the effective management of the supply chain plays a pivotal role in ensuring project success, cost efficiency, and sustainability. This literature study delves into a comprehensive review of contemporary theories, practices, and models shaping Construction Supply Chain Management (CSCM). Addressing diverse facets such as claims management, contract termination, and the integration of emerging technologies, this review aims to provide a thorough understanding of the challenges, opportunities, and evolving trends in the realm of construction supply chains. The study navigates through a multitude of research methodologies, encompassing systematic literature reviews, content analysis, simulation-based approaches, and surveys, ensuring a robust exploration of the multifaceted dimensions of CSCM. Throughout the review, attention is given to the unique challenges within the construction domain, including the limited applicability of certain Supply Chain Management (SCM) practices and the need for specialized models to address industry-specific concerns. The exploration of barriers, opportunities, and the impact of individual practices on performance effectiveness adds depth to the analysis, offering valuable insights for practitioners, policymakers, and researchers in the construction supply chain.

# LITERATURE RIEVEW:

***Dimitrios et.al (2018)*** presents a process reference model for claims management in construction supply chains, emphasizing the importance of strategic planning and development. The model was developed through a top-down approach, including the adaptation of existing models and practices, and validation through interviews with industry experts. The model offers unique features, such as a focus on contract cancellation management and performance measurement processes and addresses weaknesses in existing approaches. The article highlights the need for formalizing rules for strategic claims management and offers valuable insights for improving efficiency and decision-making in construction projects. Overall, the research provides a comprehensive tool for claims management and offers practical guidance for professionals and researchers in the construction industry.

***Mochamad et.al (2018)*** discuss about the "Factors for Implementing Green Supply Chain Management in the Construction Industry" literature review provides the topic of green supply chain management (GSCM) in the construction industry. The authors draw on a range of



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