Framework of an Implementation Strategy for Production Models in Construction Companies

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Abstract:

Background: To achieve economic resilience amid global changes, construction companies are slowly adopting production systems inspired by the Toyota Production System principles. By applying production management methods, these companies aim to identify and eliminate waste and optimize their processes towards greater productivity. However, the implementation of these production models poses significant challenges specific to the construction industry. This study seeks to identify and address these challenges from a change management-oriented point of view.

Method: An inductive research approach was employed, beginning with empirical investigations to identify challenges through interviews with experts from construction companies in Germany. Based on the identified obstacles, we developed a four-phase framework to facilitate better implementation of production models in the construction sector.

Results: We identified ten key obstacles to implementing production models in construction companies. The proposed framework comprises four phases: preparation, strategic implementation, operational implementation, and continuous improvement. The implementation strategy is central to the model and is supported by specific methods and tools in each phase. In the preparation phase, the goals of production models must be communicated to company management, highlighting advantages to secure their support, especially if the initiative originates from an employee. The implementation structure must be established, and a production or lean manager appointed. In the strategic implementation phase, new lean-oriented objectives and key performance indicators are identified, requiring intensive communication structures and managerial understanding of lean principles. The operational implementation phase involves motivating and training employees in holistic production systems, necessitating effective communication up to the shop floor. Finally, the continuous improvement phase focuses on embedding a lean company culture and implementing a control system to measure implementation progress.

Conclusion: By providing this framework, the implementation of production models becomes more accessible, potentially leading to improved productivity in construction companies. The framework not only addresses the specific obstacles identified but also offers a structured approach to navigate the complexities of change management in the construction industry.

Keywords:

Production system, production model, implementation, change management, lean construction.