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**Supply Chain Digital Transformation**

Abstract

The problems of digital transformation of supply chains are considered. A framework (framework) for the digital transformation of the supply chain is proposed, which consists of four basic blocks: digitalization of customer experience, digitalization of products and services, digitalization of operations/processes, digital transformation of the supply chain. The content (functional) structure of four frame blocks is determined and the main components (systems, technologies) that make up the digital content of the framework are described in detail.

A scheme (algorithm) of the process of digitalization of the supply chain has been developed, which includes three main stages: awareness of the need for digitalization, digital vision and strategy, in fact, the methodology for digital transformation of the chain.

A procedure for the digital transformation of the supply chain is proposed, which includes a number of design solutions related to the formation of a communication network structure (Multi Party Network), in particular, using the Blockchain technology, an integrated supply chain planning system, an ecosystem of digital twins (Digital Twin), as well as a digital platform for monitoring and monitoring events in the supply chain (Supply Chain Control Tower).

The terminology of digitalization in supply chain management has been clarified, in particular, a substantive analysis of the definitions of the concept of "digital supply chain" has been given. The structure of the digital supply chain is analyzed based on reference models, in particular, the SCOR, DCOR, CCOR family of models. The advantages of a digital supply chain in the context of accurate and timely decision-making on integrated planning are shown. Identified global social and environmental challenges in relation to the management of risks and failures in supply chains.

It is shown that the future development of digital supply chains is a fully integrated and multi-layered customer-oriented supply chain. A roadmap for the future digital transformation of supply chains has been proposed. Prospects and trends in the development of the digital transformation of the supply chain are shown based on the analysis of research by the world's largest consulting and analytical companies.

**Keywords:** framework, digital transformation, methodology, reference models, digital twin, blockchain, Multi Party Network, Digital Twin, Supply Chain Control Tower