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КРАМАРОВА

Володимира Савовича

(1906-1987)

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В збірнику представлені тези доповідей науково-педагогічних працівників, наукових співробітників, аспірантів та студентів НУБіП України, провідних вітчизняних і закордонних вищих навчальних закладів та наукових установ, в яких розглядаються завершені етапи розробок.

The Proceedings presents abstracts of reports of scientific and pedagogical workers, research staff, graduate students and students of the NULES of Ukraine, leading domestic and foreign higher educational institutions and scientific institutions, in which completed stages of development are considered.

RELIABILITY OF LOGISTICS SYSTEMS IN MACHINE-BUILDING ENTERPRISES: KEY ASPECTS AND CHALLENGES

V. I. MELNYK, PhD in Economics, Associate Professor,
V.I. MELNYK, PhD in Agriculture,
A. A. TARASENKO, Master's student,
National University of Life and Environmental Sciences of Ukraine

Machine-building enterprises occupy a pivotal position within the global economy, serving as essential suppliers to diverse industrial sectors. The assurance of logistic system reliability within these companies is paramount, not only for maintaining continuous production but also for achieving customer satisfaction. The importance of this subject is underscored by its fundamental aspects and the prevailing challenges, including the optimization of raw material and component supply chains, the efficiency of transportation processes, the implementation of effective warehouse management practices, and the integration of advanced logistics management technologies.

The dependability of logistics systems in procuring raw materials and components constitutes a critical precondition for preventing interruptions in production. Machine-building enterprises must meticulously plan and administer their supply chains to guarantee the timely and precise availability of necessary materials, alongside proficient management of potential risks and the formulation of contingency strategies. This systematic approach is essential for sustaining operational continuity and optimizing production efficiency.

Warehouse management significantly influences the reliability of logistics systems through the facilitation of rapid access to requisite components and finished goods. The adoption of strategic inventory planning, meticulous organization of warehouse space, and the integration of automation technologies are fundamental in mitigating delays and minimizing losses. Such measures are vital for maintaining an efficient, responsive supply chain that supports uninterrupted production and distribution processes.

Efficient transportation logistics plays a crucial role in bolstering the reliability of logistics systems within machine-building companies. Optimal selection of routes, diversification of transportation modes, and the deployment of cargo tracking technologies to oversee movement are essential strategies. These measures ensure timely and secure delivery of materials and products, underpinning the operational efficacy of logistics frameworks.

The implementation of contemporary information systems and software dedicated to logistics process management significantly enhances system reliability. This encompasses inventory management systems, transportation management solutions, and tracking systems, among others. Such technological advancements facilitate improved oversight, efficiency, and coordination of logistics operations, thereby reinforcing the robustness of the logistics framework.

Despite the implementation of various measures, it is imperative to establish contingency plans for addressing unpredictable events, including supply chain disruptions, transportation accidents, or emergencies. The practice of effective risk management plays a pivotal role in preserving the reliability of logistics systems under any circumstances, ensuring operational resilience and continuity.

The reliability of logistics systems within machine-building companies is paramount for operational success and customer satisfaction. Through the optimization of sourcing strategies, warehouse management, transportation processes, technological integration, and risk management, these enterprises can attain industry-leading standards of efficiency and reliability. This comprehensive approach ensures a robust logistics framework, essential for maintaining competitive advantage and fostering customer trust.

The adoption of a logistics-oriented approach to management and the implementation of logistics systems within enterprises enable significant enhancements, including improved planning accuracy, effective management of material, financial, and informational flows, and the evaluation of the enterprise's efficiency and reliability, along with its services. Additionally, it facilitates the monitoring of both macro and micro environmental factors. This holistic strategy not only optimizes operational processes but also strengthens the overall performance and adaptability of the enterprise in a dynamic business landscape.

Despite these advantages, numerous challenges exist, the nature and magnitude of which differ based on the enterprise's size, operational specifics, and geographical location. Situations of uncertainty and risks of various types and impacts diminish the reliability of both the enterprise and its logistics system. This variability necessitates tailored strategies to mitigate risks and enhance system resilience, ensuring sustained operational efficacy and reliability amidst diverse conditions.

The primary goal of logistics is to maximize profitability through the optimization of logistics expenses. The logistics system plays a crucial role in orchestrating the coordination among all its functional units. Its effective implementation can lead to significant reductions in logistics costs by up to 25%, transportation expenses by up to 20%, and loading and unloading costs by up to 30%. Furthermore, it can enhance the turnover rate of material resources by up to 40%. This efficiency underscores the strategic value of logistics in streamlining operations and improving the financial performance of an enterprise.

The foundation of logistics systems' efficiency is predicated on their reliability, which necessitates the management of planning processes across all system components under varying operational conditions. To guarantee the logistics system's reliability, a comprehensive evaluation of all constituent elements is imperative, with an emphasis on identifying key indicators of efficiency and reliability. This meticulous assessment ensures that the logistics system operates optimally, bolstering the overall performance and dependability of the enterprise.

The specialized economic literature offers a fragmented view of logistics activity indicators, encompassing warehouse operations and logistics services. Consequently, researchers adopt varied methodologies for assessing the reliability of

an enterprise's logistics system, with some focusing on specific components and others employing a set of general methods that provide a broad overview of performance. While the financial reliability of an enterprise can be evaluated using readily available data, assessing the reliability of the logistics system demands the development of a bespoke methodology. This approach should encompass all unique attributes and influencing factors of the logistics system to ensure a comprehensive and accurate assessment.