IMPROVEMENT OF PRODUCTION RESERVE MANAGEMENT MODELS IN COTTON-TEXTILE CLUSTERS: ERP-systems

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Abstract . The integration of advanced Enterprise Resource Planning (ERP) systems plays a pivotal role in optimizing resource allocation, improving supply chain coordination, and ensuring the seamless management of inventory. This paper explores the potential for improving existing production reserve management models within cotton-textile clusters through the adoption of ERP systems. By analyzing current challenges, such as fluctuating raw material availability, demand forecasting inaccuracies, and limited synchronization between production units, the study proposes a framework for integrating ERP solutions to address these issues.

Keywords: ERP-systems, cotton-textile clusters, production reserves, logistics, resource management, ERP.

Sewing production requires a unique approach to management. It combines creative design with precise technical processes, seasonal collections with a constant production cycle, individual orders with mass sewing. An ERP system turns the chaos of a sewing workshop into a well-coordinated mechanism. It tracks every spool of thread, every piece of fabric, every minute of equipment operation.

The system takes into account the specifics of the industry - from working with patterns to managing size grids. Precise planning is extremely important in the sewing business. A week's delay in a winter collection can cost an entire sales season. A delay in ordering fabric stops the entire production process. ERP helps to foresee and prevent such situations, coordinating all processes from a sketch to a finished product.

The theoretical foundations of inventory management are based on the classical (Wilson, 1934) EOQ model and modern Just-in-Time (JIT) and Material Requirements Planning (MRP) systems. Research on inventory management in the textile industry (Chopra & Meindl, 2016; Christopher, 2011) shows the importance of determining the optimal inventory level for the effective operation of the logistics chain. Research on this topic in the Uzbek economy (Karimov, 2020; Ismoilov, 2022) considers areas for improving the efficiency of inventory management in local manufacturing enterprises.

Logistics networks and supply chain management are important for ensuring the efficient operation of the production process. Researchers such as Ballou (2004) and Lambert (2008) have studied the strategic aspects of logistics and analyzed its impact on inventory management. Although supply chain problems and their solutions in the textile industry (Ferdows, 2008; Gattorna, 2015) have been widely studied globally, there is still a lack of scientific research in this area in Uzbekistan. Also, the coordinated work of cluster enterprises in the logistics network plays an important role in ensuring the stability of the production process.

Domestic and foreign studies have proposed methods for optimizing production inventories. Simchi-Levi et al. (2008) emphasize the need to use information technologies for supply chain efficiency. Domestic researchers (Turayev, 2021; Rasulov, 2023) emphasize the possibility of improving inventory management through digitalization in cotton-textile clusters in Uzbekistan.

The analysis of the literature shows that the problem of managing production reserves in cotton-textile clusters is scientifically relevant, and its effective solutions serve to ensure the continuity of the production process, reduce costs, and increase the competitiveness of clusters. This study proposes to develop a scientific and methodological basis for adapted reserve management for cotton-textile clusters based on existing theories and approaches.

The textile market does not forgive mistakes in quality and timing. Therefore, the implementation of ERP in sewing production is not just the automation of processes. It is the creation of a system that takes into account all the nuances of the industry and helps clothing manufacturers remain competitive. Let's consider the key features of the clothing industry that determine the specifics of implementing ERP systems in this area.

The first step in implementing an ERP system is a detailed analysis of current business processes. This includes studying all stages of production, from purchasing fabrics and accessories to the final product. It is important to identify weak points and areas that need optimization.

The next step is to choose a suitable ERP system. Market offers are varied, but not all systems are equally well suited for clothing production. It is important to choose a system that has specialized modules for managing clothing production, such as:

Fabric and accessories inventory management

Production planning

Quality control

Order and logistics management

System setup

After selecting an ERP system, it is necessary to configure it to the specific needs of the enterprise. This includes integration with existing systems, module setup, and creation of user interfaces. It is important to involve key employees in this process who know the specifics of production best.

Successful implementation of an ERP system is impossible without proper staff training. Employees should be familiar with new processes and tools. Training and educational materials will help reduce adaptation time and improve work efficiency.

Before a full-scale implementation, it is recommended to conduct a pilot project. This will help identify and eliminate potential problems without significant losses for the business. The pilot implementation will also help evaluate the effectiveness of the new system and make the necessary adjustments.

After a successful pilot project, you can move on to the full implementation of the ERP system. It is important to ensure a smooth transition and minimize the impact on production processes. Support from the ERP system supplier and internal technical support will help resolve any issues that arise.

After the implementation of the ERP system, it is important to constantly monitor its operation and make the necessary adjustments. Regular analysis of data and reports will help identify new opportunities for optimization and increase in production efficiency.

Optimization of production processes. The ERP system allows you to automate and standardize production processes, which leads to cost reduction and increased productivity.

Inventory control. Effective management of fabric and accessories stocks helps to avoid overproduction or shortage of materials.

Improving product quality. The quality control system allows you to track all stages of production and identify defects at early stages.

Improvement of logistics. The ERP system optimizes delivery and storage processes, which leads to a reduction in order fulfillment time and a reduction in logistics costs.

Implementation of an ERP system in clothing production is an important step to improve the efficiency and competitiveness of the enterprise. Successful

implementation requires careful planning, proper staff training and continuous monitoring.

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