

LABOR PRODUCTIVITY IN THE TEXTILE INDUSTRY OF UZBEKISTAN: CHALLENGES AND RESERVES FOR GROWTH

Khotamova Laylo
Student of Group 13r-24

Abstract: This article analyzes the current state of labor productivity in the textile industry of Uzbekistan. Key challenges affecting labor productivity are identified, including outdated technological equipment, a shortage of qualified personnel, and deficiencies in labor organization. The study examines the main reserves for productivity growth, such as production modernization, workforce development, management improvement, and the implementation of digital technologies. The conclusions are based on statistical data obtained from textile enterprises located in the Namangan, Andijan, and Tashkent regions.

Keywords: labor productivity, textile industry, Uzbekistan, modernization, personnel, digitalization, labor efficiency, industrial development.

The textile industry occupies a leading position in the structure of Uzbekistan's national economy. According to the Ministry of Investments, Industry and Trade of the Republic of Uzbekistan, the textile sector accounts for approximately 18–20% of total industrial output, while its share in national exports exceeds 25%. The industry provides employment for more than 300,000 people, most of whom are concentrated in the Namangan, Andijan, Fergana, and Tashkent regions.

Despite its substantial resource potential, labor productivity in Uzbekistan's textile industry remains significantly lower than in developed textile-producing countries such as Turkey, China, Bangladesh, and the member states of the European Union. This gap is caused by a combination of interconnected factors, including technological backwardness, a shortage of skilled labor, low levels of automation, and insufficient development of quality management systems.

The relevance of this study is determined by the need to develop scientifically grounded recommendations aimed at increasing labor productivity as a key factor of competitiveness in the textile sector under conditions of globalization. The purpose of the article is to identify the major productivity-related problems in Uzbekistan's textile industry and determine the priority reserves for its growth.

Theoretical Foundations of Labor Productivity

Labor productivity is one of the fundamental indicators of enterprise performance. In economic theory, labor productivity is defined as the quantity of goods, works, or services produced by one employee within a given period of time or, alternatively, as labor costs incurred in producing a unit of output (labor intensity). Modern economic literature identifies several approaches to measuring labor productivity. The natural method evaluates output in physical units, such as meters of fabric or pieces of garments. The value-based method measures productivity as the ratio of output expressed in monetary terms to the number of employees or working time. The labor method assesses productivity through standard labor hours required to produce a unit of output.

Within the textile industry, the value-based method is considered the most appropriate because it allows comparisons among enterprises producing different types of products, including yarn,

fabric, knitwear, and finished garments. Labor productivity growth is achieved through technological progress, workforce qualification improvement, and the enhancement of production and management systems.

Current State of Labor Productivity in Uzbekistan's Textile Industry

According to the Statistics Agency of the Republic of Uzbekistan, the annual output of the textile and apparel industry amounted to approximately USD 4.8–5.2 billion during 2022–2023. At the same time, average annual output per employee ranged from USD 12,000 to 18,000, which is approximately 2.5–3 times lower than comparable indicators in Turkey and China.

An analysis of textile clusters operating in the Namangan and Andijan regions demonstrates that despite relatively high labor availability, many small and medium-sized enterprises are characterized by a low level of mechanization. Expert estimates suggest that manual labor accounts for up to 60–70% of operations in certain enterprises, whereas similar processes are fully automated in competitive foreign companies. A significant obstacle to productivity growth is high labor turnover. In garment manufacturing enterprises, annual employee turnover averages 25–35%, resulting in considerable losses of working time associated with employee adaptation and training. In addition, the relatively low share of engineering and technical personnel limits opportunities for introducing advanced technologies and improving production processes.

Major Problems Affecting Labor Productivity

Based on an analysis of academic literature and industry practices, the primary productivity-related challenges can be classified into several groups.

Technological Backwardness: A substantial portion of production equipment currently used in Uzbekistan's textile industry was installed during the 1980s and 1990s and is now technologically obsolete. The depreciation rate of fixed assets exceeds 60–70% at many enterprises. The absence of modern automated equipment negatively affects product quality and production speed.

Shortage of Qualified Personnel: The vocational and technical education system does not fully correspond to the current requirements of the industry. Graduates often lack practical skills necessary for operating modern equipment. The gap between educational programs and industrial needs forces enterprises to invest additional resources in training and adaptation.

Inefficient Labor Organization: Many enterprises lack scientifically based labor standards and efficient workplace organization. Modern production management approaches such as Lean Manufacturing, 5S, and Kaizen are insufficiently implemented. As a result, enterprises lose an estimated 15–25% of total working time due to organizational inefficiencies.

Weak Management Practices: Managerial competencies at many textile enterprises do not meet contemporary business requirements. Investment decisions aimed at improving productivity are often made without comprehensive economic justification, while employee incentive systems remain weakly linked to productivity indicators.

Insufficient Automation of Production Processes

Although modernization efforts have been undertaken, many production operations continue to be performed manually. This reduces production speed and increases labor costs per unit of output.

Low Innovation Activity: Many enterprises continue to focus on traditional products and pay insufficient attention to innovative technologies, digital solutions, and modern production management methods.

High Employee Turnover: Frequent personnel changes require additional expenditures on training and adaptation, negatively affecting labor productivity and organizational stability.

Uneven Regional Development: Some regions continue to face infrastructure, logistics, and labor market constraints that hinder efficient industrial development.

Reserves for Labor Productivity Growth

Labor productivity reserves represent unused opportunities for improving enterprise performance through more effective utilization of available resources. The following areas are considered the most promising for Uzbekistan's textile industry.

Technological Modernization: The introduction of automated weaving machines, computerized cutting systems, and automated sewing lines can increase labor productivity by 40–60%. The national development program “Uzbekistan–2030” provides preferential financing mechanisms for textile enterprises, creating favorable conditions for technological renewal.

Human Capital Development: Industry-based training and retraining centers should be established at leading enterprises. The implementation of dual education systems, combining academic studies with practical industrial training, would significantly improve workforce qualifications. Continuous professional development of engineers, technologists, and production managers is essential for successful technological adoption.

Digitalization of Production Processes: The implementation of ERP systems, automated productivity monitoring, and computer-vision-based quality control systems can substantially improve operational efficiency and reduce defect rates. Experience from leading enterprises indicates that digital transformation can increase labor productivity by 20–35% within two to three years.

Implementation of Lean Production Principles: The adoption of Lean Manufacturing and 5S methodologies helps reduce time losses, optimize workplace organization, and standardize production operations. Enterprises that have implemented these approaches report reductions in labor intensity of 15–25% without significant capital investments.

Deep Processing of Cotton Raw Materials: Transitioning from raw cotton exports to the production of high value-added textile products enhances productivity and strengthens the industry's international competitiveness.

Improvement of Employee Motivation Systems: Replacing traditional time-based wage systems with performance-based compensation linked to productivity and quality indicators creates strong incentives for increasing individual and collective output. The introduction of KPI-based performance evaluation systems contributes to the development of a productivity-oriented corporate culture.

Labor productivity is a crucial indicator of the competitiveness of Uzbekistan's textile industry under conditions of intensifying global competition. The conducted analysis demonstrates that the industry possesses considerable growth potential that remains only partially utilized. The major challenges—technological backwardness, shortages of qualified personnel, deficiencies in labor organization, and management weaknesses—are systemic in nature and require comprehensive solutions. Priority areas for state policy and enterprise-level management should include technological modernization, reform of vocational education and training systems, implementation of digital technologies, and improvement of labor motivation mechanisms.

The successful realization of these reserves could increase labor productivity in the textile industry by approximately 35–50% over the medium term (three to five years). Such progress would significantly strengthen the competitive position of Uzbek textile products in international markets and contribute to sustainable growth in employee incomes and overall industry development.

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