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ANALYSIS OF THE CURRENT STATE OF DEVELOPMENT OF TEXTILE INDUSTRY ENTERPRISES

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ABSTRACT
This article examines the development dynamics of the textile industry from 2020 to 2024 and its role within the manufacturing sector. The analysis shows steady growth in production, employment and enterprise numbers, indicating strong quantitative expansion. Despite this progress, OECD classification places the textile industry in the low-technology segment, characterized by high labor intensity and limited value-added capacity. The findings reveal that growth has been driven mainly by scale rather than technological advancement, which may constrain long-term competitiveness. The study concludes that accelerated technological modernization, improved resource efficiency, digitalization and compliance with sustainability standards are essential for transitioning toward higher value-added production and enhancing global competitiveness.
KEY WORDS: *Textile Industry; Manufacturing Sector; Low-Technology Industries; Structural Transformation; Technological Upgrading; Value-Added Production; Industrial Competitiveness; Sustainability; Economic Development.*

INTRODUCTION

The textile industry is one of the largest and most strategically significant sectors of the country's economy, playing a crucial role in industrial output, employment generation, export performance, and the economic activation of regions. In recent years, shifts in global market demand, the tightening of environmental regulations, and the accelerated modernization of production processes have had a profound impact on the sector's development trajectory. In particular, the growing international emphasis on green manufacturing, energy efficiency, reduced water consumption, and the use of renewable raw materials has emerged as a decisive factor shaping the competitiveness of textile enterprises in Uzbekistan.

Given these developments, assessing the current state of the industry requires a multidimensional approach that goes beyond analyzing production indicators and export volumes. It demands a comprehensive evaluation of resource-use efficiency, reductions in environmental footprint, the extent of waste recycling, and the adoption of energy-saving technologies within enterprises. The transition toward green economy principles has become a strategic pathway for the contemporary transformation of the textile sector, serving as a key determinant of its sustainable competitiveness in both domestic and global markets.

LITERATURE REVIEW

Recent research on the global textile industry underscores profound structural changes driven by technological innovation, sustainability imperatives, and intensifying international competition. Scholars from various countries have analyzed these transformations, offering empirical evidence and conceptual insights into the challenges and strategic opportunities shaping the sector's development trajectory.

Xu et al. (2023) examine the performance of green technological innovation in Chinese textile enterprises and identify persistent inefficiencies in the innovation process. Their study demonstrates that from 2017 to 2020 the industry experienced a decline in total factor productivity, largely attributed to a slowdown in technological advancement rather than a reduction in input utilization. Notably, the authors find that government subsidies alone do not stimulate green innovation; instead, internal factors-such as enterprise profitability and asset size-exert stronger influence. They argue that textile enterprises must adopt innovation models that effectively integrate economic performance with environmental objectives, emphasizing the crucial role of R&D-driven green technologies for ensuring long-term sustainability and competitiveness.

Sustainability trends in the global textile sector are further explored by Harsanto et al. (2023), who conducted a comprehensive systematic review of sustainability-oriented innovation practices. Their findings reveal significant growth in scholarly and industrial engagement with ecological innovation over the past decade. Key thematic areas include eco-design, life cycle assessment, cleaner production technologies and sustainable supply chain management. The authors also emphasize that while environmental innovation has received substantial attention, social innovation remains comparatively underdeveloped. They call for more coordinated efforts between policymakers, industry stakeholders and academic institutions to meet rising consumer expectations for environmentally responsible textile products.

Mondal and co-authors (2025) focus on the Bangladeshi textile industry, highlighting its critical contribution to employment, GDP growth and national export earnings. Despite its central role in economic development, the industry confronts multiple constraints, including fluctuating growth rates, compliance with sustainability standards and pressures stemming from global competition. The authors identify the expansion of green factories, increased foreign direct investment and the shift toward higher value-added products as key drivers of transformation. They conclude that enhancing technological capabilities, strengthening innovation ecosystems and fostering public-private partnerships are essential for securing long-term competitiveness.

Technological innovation dynamics are also addressed in the work of Wang and Cheng (2025), who analyze global patent data related to new textile material technologies. Their study highlights the technological leadership of the United States and Japan, particularly in high-value and advanced material innovations. Although China demonstrates rapid growth in patent activity, the authors note that its innovation quality and technological depth lag behind the leading economies. These findings underscore the need for more strategic innovation planning and accelerated technological development within the Chinese textile sector.

Teselko (2023) provides a broader theoretical perspective on contemporary trends in textile and apparel industry management. He identifies technological modernization, digitalization, automation and sustainability practices as the dominant drivers of industrial transformation. The author also highlights the influence of social media, fast-fashion business models and shifting consumer behaviors on global demand patterns. Additionally, reshoring of production, increased foreign investment and the adoption of sustainable raw materials are viewed as emerging strategic directions for enterprises seeking competitiveness in rapidly evolving markets. Teselko argues that long-term growth increasingly depends on firms' ability to integrate advanced technologies, environmentally friendly materials and digital solutions into their production and management systems.

Collectively, the reviewed literature illustrates that the textile industry's development is shaped by a complex interplay of environmental regulation, technological advancement, global value chain restructuring and market dynamics. These studies provide a multi-dimensional understanding of how countries and enterprises are adapting to new sustainability requirements and competitive pressures, offering valuable insights for assessing the current state and future development prospects of textile enterprises in Uzbekistan.

ANALYSIS AND DISCUSSION OF RESULTS

In our view, the textile industry should be regarded not merely as an independent production sector, but as one of the key strategic pillars shaping the structural architecture of the national economy. Within the broader framework of industrial policy, export diversification, the expansion of high-value processing chains and the development of regional industrial clusters, the textile sector increasingly functions as a "driver industry." This is largely attributable to its extensive linkages that span from agriculture and raw material processing to logistics, trade, and various service segments. In particular, the emergence of integrated cotton–textile clusters, the deepening of raw material processing and the growth in exports of finished textile products have contributed to a greater share of value added being generated domestically.

Assessing the industry's role in the national economy requires a systematic analysis of its contribution to gross domestic product (GDP), its position within total industrial output and its share in the structure of manufacturing industries. The dynamics of textile production serve as an important indicator not only of sectoral performance, but also of the tangible outcomes of ongoing reforms aimed at modernization, diversification and the creation of higher value added. Analysis of the sector's share in GDP, the growth rates of industrial and manufacturing output, and the textile industry's relative weight within the national production structure allows for a comprehensive understanding of its contribution to economic growth, macroeconomic stability and the country's external trade balance.

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Beyond its economic significance, the textile industry also plays a pivotal social role due to its substantial employment-generation potential. Across the entire value chain-from raw cotton cultivation and processing to garment production, design, logistics and retail-job creation contributes to social stability, rising household incomes and accelerated regional development. Under the conditions of the emerging green economy, these processes acquire additional relevance as enterprises increasingly focus on improving resource efficiency, adopting water- and energy-saving technologies and transitioning toward environmentally sustainable production systems. This shift not only enhances economic performance, but also supports broader social and ecological outcomes.

Given this context, an empirical assessment of the textile industry's position within the national economy necessitates the analysis of key macroeconomic indicators over time. Annual changes in the sector's share of GDP, the growth dynamics of industrial and manufacturing output and the structural shifts within the production system provide critical insights into broader economic development trends. These indicators offer an evidence-based perspective on the effectiveness of industrial policies, the progress of economic modernization and the balance across sectors. Therefore, the statistical data presented in Table 1 serve as an important empirical foundation for examining the underlying patterns of industrial growth, quantifying the textile sector's real contribution to GDP and evaluating its long-term sustainability prospects.

Table-1

The main macroeconomic indicators of the economy and industrial sector of Uzbekistan in 2020-2024

No.	Indicators	Unit of measurement	2020	2021	2022	2023	2024
1	GDP	trillion soum	668038,0	820536,6	995573,1	1204485,4	1454573,9
2	Production volume of industrial products	billion soum	368740,2	456056,1	553265,0	658991,7	880198,5
3	The volume of the manufacturing industry	billion soum	305900,0	378200,0	460500,0	556400,0	753600,0
4	Share of industry in GDP	%	28,5	27,8	26,7	25,3	26,4

Macroeconomic indicators for Uzbekistan over 2020-2024 demonstrate sustained economic expansion, with particularly dynamic developments in the industrial sector in line with ongoing modernization efforts. As shown in Table 1, gross domestic product (GDP) increased markedly from 668 trillion UZS in 2020 to 1.45 quadrillion UZS in 2024. This growth reflects the effectiveness of reforms aimed at strengthening macroeconomic stability, expanding investment activity, increasing production capacity and promoting structural diversification.

Parallel to GDP growth, industrial output also expanded significantly. The volume of industrial production rose from 368.7 trillion UZS in 2020 to 880.2 trillion UZS in 2024 an increase of almost 2.4 times indicating improvements in technological upgrading, production efficiency and real sector performance. This rise was driven by both growing domestic demand and steady expansion in export-oriented manufacturing.

The manufacturing segment, which forms the core of industrial output, likewise experienced substantial growth. Its volume increased from 305.9 trillion UZS to 753.6 trillion UZS during the period, reflecting the success of policies aimed at deeper processing and higher value-added production. The expansion of sectors such as chemicals, metallurgy, electrical engineering, food processing and textiles significantly contributed to the strengthening of the manufacturing base.

At the same time, the share of industry in GDP declined from 28.5 percent in 2020 to 26.4 percent in 2024. This decrease should not be interpreted as weakening industrial performance; rather, it indicates faster growth in other sectors-particularly services, construction, transport-logistics and ICT-which has shifted the intersectoral balance of the national economy. The change reflects ongoing structural transformation and increasing diversification.

Overall, the observed dynamics in industrial output and its composition suggest that Uzbekistan is gradually transitioning toward a model of development based on modernization, innovation and efficient resource utilization. These structural shifts support long-term industrial sustainability and expansion of value-added production.

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To better understand these processes, it is essential to analyze the structural distribution of industrial production across sectors. Identifying which segments are gaining prominence, how the share of manufacturing is evolving and how extractive industries are positioned provides insights into industrial policy priorities and the broader structural transformation underway. The sectoral composition of industrial output in 2024 (Figure 1) clearly demonstrates these trends, highlighting the dominant role of manufacturing within the national industrial structure.

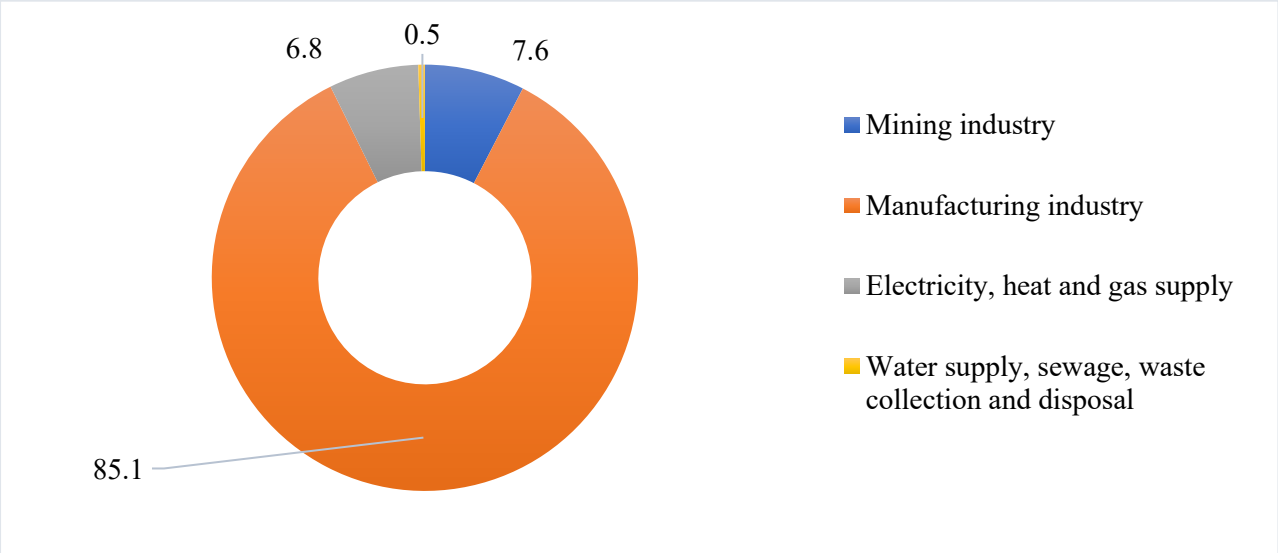

Figure 1. The composition of the industrial production of Uzbekistan in 2024 (by sector, in %)

In 2024, the sectoral structure of Uzbekistan's industrial output demonstrates the dominant position of manufacturing, which accounts for 85.1 percent of total industrial production. This high share clearly reflects the priorities of the country's industrial policy and the tangible outcomes of ongoing economic transformation. In particular, it indicates a gradual shift away from a resource-extractive model towards a production structure based on deeper processing and higher value-added activities.

The leading role of manufacturing signals the expansion of processing capacities, the effectiveness of technological modernization programs and a significant strengthening of value-added creation. This trend is especially evident in sectors such as textiles, chemicals, food processing, electrical engineering and machinery, where new capacities are being commissioned, product assortments are diversifying and the share of export-oriented finished goods is rising. From a developmental perspective, the literature emphasizes that a high manufacturing share in GDP and industrial output is critical for long-term growth and employment in developing economies, whereas a premature decline in industry often correlates with "early deindustrialization" and constrained development opportunities. Maintaining a strong industrial base therefore remains highly relevant for Uzbekistan.

Other branches, such as mining (7.6 percent), electricity, heat and gas supply (6.8 percent), and water supply and waste management (0.5 percent) occupy relatively small shares in the industrial structure and primarily perform supporting functions by providing raw materials, energy and infrastructure for the manufacturing sector. Their modest contribution underscores the orientation of the national economy towards higher value-added production, reduced dependence on raw material exports and the prioritization of processing activities.

The 2024 structural proportions thus confirm that manufacturing has emerged not only as the core of industry, but also as a principal driver of the country's economic development. This reflects Uzbekistan's consistent efforts to build a modern industrial model based on innovation, high value-added products and export competitiveness. Within this context, the textile industry represents one of the largest and most influential segments of manufacturing, exerting a significant impact on overall industrial dynamics. Consequently, a separate analysis of the volume and share of textile production in total industrial output is essential for understanding the real weight of the sector in the national economy, its position within the processing value chain and its role in the broader structural transformation process.

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Table-2
Dynamics of the share of the textile industry in the industry (2020-2024)

No.	Indicators	Unit of measurement	2020	2021	2022	2023	2024
1	The production volume of textile products	billion soum	36713,9	52372,3	62850,7	71509,8	89489,0
2	Share of textile products in the manufacturing industry	%	12	13,8	13,6	12,9	11,9
3	Share of textile products in total industrial products	%	9,9	11,5	11,4	10,8	10,1

The dynamics of textile production in Uzbekistan during 2020-2024 indicate steady and robust growth within the industrial sector. According to the data, textile output increased from 36.7 trillion UZS in 2020 to 89.5 trillion UZS in 2024, reflecting a 2.4-fold expansion. This upward trend is largely attributable to the rapid development of cotton–textile clusters and the rising domestic and international demand for finished textile goods. The growing share of deep processing and the expansion of high value-added production have significantly strengthened the sector's economic activity.

Despite this substantial growth in absolute terms, the share of the textile industry within total manufacturing decreased slightly from its peak of 13.8 percent in 2021 to 11.9 percent in 2024. This decline is not indicative of a slowdown in textile production; rather, it reflects faster growth in other manufacturing segments such as chemicals, metallurgy, food processing and machinery. A similar pattern is observed in the share of textiles within total industrial output, which declined from 11.5 percent in 2021 to 10.1 percent in 2024 as a result of broader industrial diversification. Nevertheless, the sector's stable contribution hovering around 10 percent, confirms its continued strategic importance for the national economy.

These trends illustrate that while the textile industry is expanding rapidly, its relative share is affected by structural shifts and the accelerated growth of other industrial branches. This does not reduce the sector's economic significance; instead, it highlights the increasing complexity and multi-sectoral nature of Uzbekistan's industrial development. The stable performance of textiles, alongside its rising export potential and key role in the processing value chain, underscores the sector's long-term relevance.

Understanding the sector's relative position within industry also requires an examination of the technological structure of manufacturing. The competitiveness and sustainability of textile production are closely linked to the technological sophistication of production processes. For this reason, analyzing the technological composition of manufacturing using internationally recognized classifications is essential.

A widely used methodological framework is the OECD classification of industrial sectors by technological intensity. This system categorizes industries into high, medium-high, medium, medium-low and low-technology groups based on R&D expenditure relative to value added. It provides a consistent basis for assessing technological structures and comparing innovation patterns across economies.

Applying this classification to Uzbekistan's manufacturing sector reveals important structural characteristics. As shown in Figure 2, low-technology industries constitute the largest share of manufacturing, accounting for 38.8 percent. According to OECD definitions, low-technology sectors are characterized by minimal R&D requirements, labor-intensive production processes, relatively simple technologies and lower levels of value added. The dominance of these industries indicates that Uzbekistan's manufacturing sector is still in the early stages of technological upgrading, although recent modernization programs suggest ongoing structural improvements.

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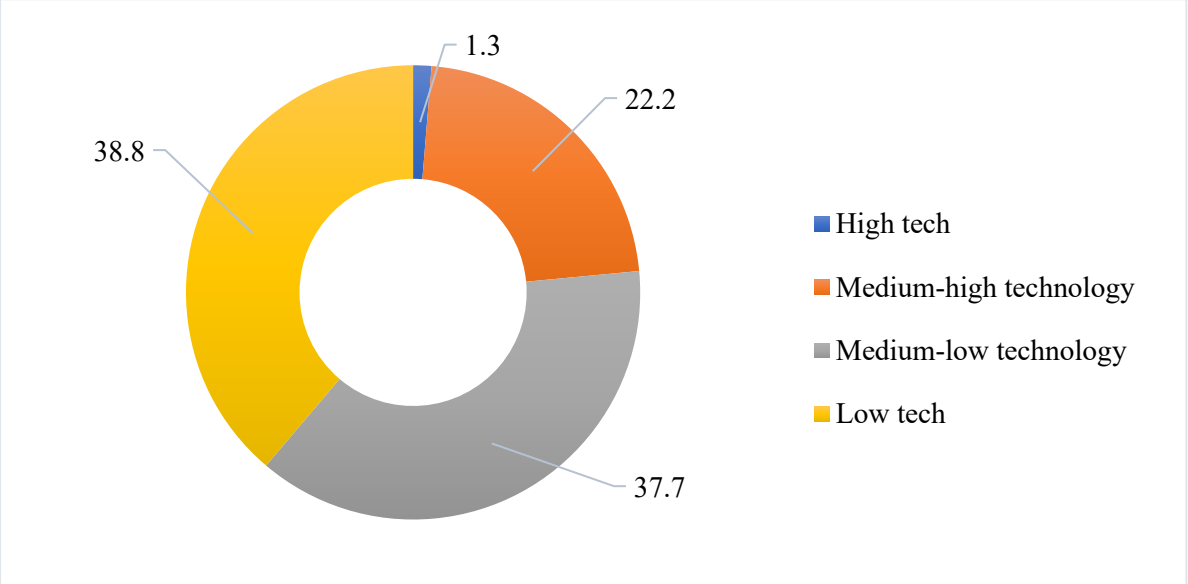

Figure 2. Technological structure of the manufacturing industry in Uzbekistan in 2024

This group of industries includes, first and foremost, the textile, apparel, knitwear and garment sectors, as well as leather and footwear production and several related branches. The fact that these industries collectively account for nearly 40 percent of total manufacturing output indicates that Uzbekistan's industrial structure remains heavily concentrated in labor-intensive sectors with relatively low technological complexity. Within this group, the textile industry represents the largest segment and plays a defining role in shaping the technological profile of the country's manufacturing sector.

The high share of low-technology industries reflects the strong labor-absorbing capacity of the national industrial base. On one hand, this creates opportunities for utilizing abundant labor resources and expanding employment. On the other hand, it highlights the pressing need for technological upgrading, automation, energy-efficient production and the adoption of innovative technologies to enhance overall industrial competitiveness.

Findings from various scholarly studies support these observations. Researchers note that the textile industry - while rapidly expanding - remains predominantly labor-intensive, with relatively low levels of technological modernization and insufficient capital intensity. Increasing investments in advanced production technologies, automation and innovation-driven processes is therefore considered essential for ensuring the sector's long-term sustainability and improving its competitive position in both domestic and global markets.

To better understand the dominant position of textiles within the low-technology segment, Table 3 provides key economic indicators of the sector and serves as an important empirical foundation for evaluating its structural characteristics and development trajectory.

Table-3
Key indicators of the textile industry

No.	Indicators	Unit of measurement	Years				
			2020	2021	2022	2023	2024
1	Annual average value of fixed assets	mln. USD	5220	5570	5990	6130	6450
2	Number of people employed in the industry	thousand people	213	231	245	255	268
3	Number of textile enterprises	units	12100	15900	18400	18900	19500
4	Export of textile products	billion USD	1,9	3,03	3,2	3,1	2,87

Table 3 presents the key structural and performance indicators of the textile industry in Uzbekistan over the period 2020-2024. The data demonstrate that the sector has undergone substantial quantitative growth alongside notable qualitative transformations, reflecting its increasing contribution to industrial development, employment generation and export performance.

The annual average value of fixed assets in the textile industry shows a steady upward trend, rising from USD 5.22 billion in 2020 to USD 6.45 billion in 2024. This 23.6 percent increase over the five-year period indicates continuous capital deepening, expansion of production capacities and modernization of technological infrastructure. Such investment dynamics suggest that enterprises are increasingly prioritizing advanced equipment, automation and energy-efficient technologies, which are essential for enhancing productivity and meeting international quality and sustainability standards.

Employment in the industry rose from 213 thousand workers in 2020 to 268 thousand in 2024, marking an increase of more than 25 percent. This reflects the labor-intensive nature of the sector, as well as the success of policies supporting cluster development, SME expansion and value-chain integration. The growing demand for labor also highlights the industry's significant social role, particularly in promoting regional employment and supporting socio-economic stability. However, the continued reliance on labor-intensive production underscores the need for parallel investments in skills upgrading and workforce digital literacy as the sector gradually shifts towards higher technological intensity.

The number of textile enterprises increased dramatically from 12,100 firms in 2020 to 19,500 in 2024. This 61 percent growth signals a sharp expansion of entrepreneurial activity and high entry rates within the sector. The surge is largely attributable to favorable regulatory reforms, cluster incentives, improved access to finance and the localization of production along the cotton–textile value chain. Nevertheless, the rapid expansion of small and medium-sized enterprises raises additional questions regarding productivity levels, technological sophistication and long-term competitiveness, which require targeted policy measures to support consolidation and modernization.

Exports of textile products increased significantly from USD 1.9 billion in 2020 to USD 3.2 billion in 2022, marking a peak in export expansion. However, exports declined slightly to USD 3.1 billion in 2023 and further to USD 2.87 billion in 2024. Several factors may explain this stabilization:

- Global market volatility, including weakening demand in key export markets.
- Increasing competition from major textile-exporting countries.
- Shifts in product composition, where enterprises may be transitioning to higher value-added but smaller-volume export segments.
- Regulatory and compliance pressures, particularly related to sustainability and traceability requirements in international markets.

Despite the slight decline, overall export levels remain significantly higher than in 2020, demonstrating that the sector retains strong export potential. Further growth, however, will depend on deeper modernization, innovation and alignment with international environmental and labor standards.

CONCLUSION

The findings of the study clearly demonstrate that Uzbekistan's textile industry holds a strategically significant position within the national manufacturing sector and operates as a central driver of the low-technology segment. Over the period 2020-2024, the sector exhibited steady improvements in key economic indicators, including sustained increases in production output, a rapid rise in the number of operating enterprises, expanding employment opportunities and a relatively stable export performance. These trends collectively confirm that the textile industry continues to be one of the most dynamic and economically influential sectors of the country.

However, according to the OECD technological intensity classification, the textile industry is still positioned within the category of low-technology industries. This implies that the sector is predominantly characterized by high labor intensity, relatively simple technological processes and limited value-added generation. Such a structural configuration, while beneficial for absorbing labor and supporting regional employment, also reveals inherent constraints in terms of productivity growth and long-term competitiveness. Consequently, the industry's sustainable development will increasingly depend on its ability to accelerate technological upgrading, introduce advanced and energy-efficient production systems, improve resource productivity and expand digital technologies throughout the value chain.

Furthermore, the analysis indicates that much of the sector's recent expansion has been driven primarily by quantitative growth namely, increases in production scale rather than shifts toward more sophisticated technological capabilities. Although this form of growth has contributed to short-term economic gains, it is insufficient to secure a stronger competitive position in the rapidly evolving global textile market. International experience shows that the ability of textile producers to integrate innovative technologies, comply with stringent environmental and sustainability requirements and transition towards high value-added manufacturing will be decisive in determining their long-term success.

In this context, the future trajectory of Uzbekistan's textile industry will depend on the extent to which it can move beyond the traditional labor-intensive model, adopt advanced manufacturing solutions and enhance its participation in higher segments of the global value chain. Strengthening innovation ecosystems, improving workforce skills and fostering a more investment-friendly environment for technology-intensive operations will be essential steps toward ensuring sustainable growth and improving the sector's international competitiveness.

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