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INCREASING MANAGEMENT EFFICIENCY IN SEWING AND KNITTING ENTERPRISES BASED ON THE SELECTION OF HIGH-YIELD SEWING EQUIPMENT

Tukhtaev Zayniddin Egamnazar ugli
Tashkent Institute of Textile and Light Industry
ORCID: 0000-0001-8304-1171
zayniddintoxtayev9@gmail.com

Abstract: This article presents a feasibility study for the selection of effective equipment for organizing sewing production, which is considered as the main production process when searching for ways to improve the management efficiency of sewing and knitwear enterprises, and the development of appropriate proposals based on the results.

Keywords: Textile enterprises, management efficiency, innovative technologies, product quality.

INTRODUCTION.

Currently, in the context of the modernization of the economy of Uzbekistan, textile industry enterprises occupy an important place in the country's economic development. Enterprises in this sector contribute to increasing economic efficiency by supplying competitive, high-quality products to domestic and foreign markets. Improving the management efficiency of textile enterprises, improving production processes and producing products that meet market requirements are one of the urgent tasks of today. A number of factors are important in increasing the efficiency of textile industry enterprises, including improving management systems, introducing new technologies, increasing labor productivity and improving product quality. These factors affect not only the economic performance of the enterprise, but also its socio-economic performance. In this regard, this article pays special attention to analyzing the factors that increase the efficiency of textile enterprise management and evaluating their practical results. In particular, the growth trends of production volumes, export indicators, labor productivity and economic efficiency are studied on the example of enterprises such as "LUKBO TEKSTIL", "BIRYUZA GROUP" and "CHUST TEXTILE". The article examines issues such as determining the internal capabilities of enterprises by analyzing their activities, the impact of introducing new technologies on efficiency, and the impact of improving product quality on management efficiency.

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LITERATURE REVIEW.

A set of actions taken during the design, preparation and operation of textile enterprises to increase, ensure and maintain product quality at the required level. The implementation of quality at the required level is carried out at the research and design stage by analyzing the most advanced scientific and technical achievements in our country and abroad. Methods for eliminating these problems have been studied by a number of foreign scientists, and we will consider the studies of some of them below.

Chase R.B., Jacobs F.R., N.J. Aquilano covered modern methods for managing production processes and increasing efficiency. They presented practical approaches to optimizing production processes and implementing technological innovations [1].

N. Slack Brandon-Jones, A. R. Johnston, in their work “Operations Management”, analyze the basic principles of operations management, including production efficiency and quality control. They present practical approaches to quality management systems and the effective use of resources [2].

Hitt M.A., Ireland R.D., and R.E. Hoskisson in their work “Strategic Management” examine the role of strategic management in increasing the competitiveness of enterprises. They also analyze strategic approaches to success in international markets [3].

Robert Kaplan and David Norton present a balanced scorecard system for evaluating the performance of enterprises. They study methods for comprehensively assessing the efficiency of an enterprise [4].

Peter Drucker, in his classic work, The Practice of Management, covers the fundamental principles of management and methods for improving performance. This classic work provides useful strategies for optimizing the performance of enterprises [5].

Heizer J., Render B., Munson C. in their book “Principles of Operations Management” provide comprehensive information on managing production processes and optimizing the supply chain. They provide practical recommendations for implementing sustainable production methods [6].

Goldratt E.M. and J. Cox analyze the theory of continuous improvement and constraints in manufacturing processes. They presented approaches to identifying and eliminating constraints in manufacturing processes [7].

Deming, W. E., in his work “Out of the Crisis”, covers the fundamental principles of quality management and improving the efficiency of enterprises. Deming's 14 principles are an important source for the implementation of quality control systems in textile enterprises [8].

Based on the above research, we can emphasize that improving the management efficiency, innovative technologies, product quality, and competitiveness of textile industry enterprises is a pressing problem today.

RESEARCH METHODOLOGY. This article used methods such as comparative, statistical, and economic efficiency assessment.

ANALYSIS AND RESULTS DISCUSSION.

Among the enterprises taken as the object of the study, the limited liability company "LUKBO TEKSTIL" is located in the Tashkent region and specializes in the production of ready-made sewing and knitwear products with high added value, in particular, suits, jackets, blazers, trousers, overalls, and shorts for men and boys.

The activities of the "LUKBO TEKSTIL" Limited Liability Company are characterized by the following indicators (Table 1).

Table 1

Dynamics of the main indicators characterizing the activities of the enterprise "LUKBO TEKSTIL" LLC

Indicators	**Unit of measurement.**	**2021- year**	**2022- year**	**2023- year**	**2024- year**	**2024- year 2021- compared to the year %.**
Product production capacity	a thousand pieces	1175,0	1245,0	1327,0	1164,0	99,1
	One thousand soums	47676573,3	51729082,0	58014855,4	51928800,0	108,9
Export volume	A thousa	8735,3	9346,8	10506,4	6722,2	77,0

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	nd dollars					
Number of workers	piece	636	697	708	684	107,5
Average labor productivity	Pieces/ person Thous and soums	1654 74963,2	1787 74216,8	1874 81941,9	1702 75919,3	92,1 101,3

Source: Author's development based on company data.

The data in Table 1 show that the volume of finished sewing and knitted products produced in kind at the LLC "LUKBO TEKSTIL" enterprise had an upward trend in 2021-2023, increasing from year to year. In 2024, the volume of product production decreased by 163,000 units compared to 2023, in particular, it was 87.7% compared to 2023, and 99.1% compared to 2021. This situation indicates that the LLC "LUKBO TEKSTIL" enterprise has internal opportunities to increase the volume of product production.

We can observe a similar situation with the indicator of the volume of production in value units. The volume of production of products in value units had a growth trend in 2021-2023, increasing from year to year. In 2024, the value of production decreased by 6,086,055.4 thousand soms compared to 2023. In particular, the indicator for 2024 was 89.5% compared to 2023, but 108.9% compared to 2021.

The dynamics of exports of finished sewing and knitted products by enterprise shows an upward trend in 2021-2023, and a downward trend in 2023-2024. We can see that the volume of product exports in 2024 will be 77% compared to 2021. This situation indicates the need to work to improve the competitiveness and quality of products manufactured at the enterprise, as well as to increase the export potential of the enterprise.

Although the number of employees at the enterprise decreased by 24 people in 2024 compared to 2023, it increased by 48 people compared to 2021, which is 107.5%. The growth rates of average labor productivity of workers in 2021-2022, 2022-2023 and 2023-2024 were 108%, 104.9 and 90.8%, respectively. The fact that the average labor productivity of workers in in-kind units is 92.1% in 2024 compared to 2021 is a negative situation for the enterprise. The fact that

the labor productivity indicator in value units was 101.3% of the growth rate can be explained by the increase in the unit price of products.

The foreign enterprise “BIRYUZA GROUP” Limited Liability Company is located in the Tashkent region and produces underwear, skirts, panties, trousers, nightgowns, pajamas, nightgowns, bathrobes and similar ready-made sewing and knitting products for women and girls.

The activities of the foreign enterprise “BIRYUZA GROUP” LLC are characterized by the following indicators (Table 2).

Table 2

Dynamics of the main indicators characterizing the activities of the foreign enterprise “BIRYUZA GROUP” LLC

Indicators	**Unit of measurement**	**2021- year**	**2022- year**	**2023-year**	**2024- year**	**2024 year. 202- per year relatively,%**
Product production capacity	A thousand pieces	81147,0	88045	102378,0	107766,0	132,8
	One thousand soums	491417898,6	528274241	624510143	660935376	134,4
Export volume	A thousand dollars.	31075,7	33251	36393,4	29532,7	95,0
Number of workers	piece	2400	2593	2904	3020	125,8
Average labor productivity	piece	33811	33955	35254	35684	105,5
	One thousand soums	204757,5	203731,9	215051,7	218852,8	106,9

Source: Author's development based on company data.

The data in Table 2 show that in 2021-2024, the volume of finished sewing and knitted products in kind at the foreign enterprise “BIRYUZA GROUP” LLC had an increasing trend, and the growth rate in 2024 was 132.8% compared to 2021. The enterprise also observed an increasing

trend in terms of the volume of product production in value units. In 2021-2024, the volume of production increased by 34.4%.

At the same time, we can note an increasing trend in the dynamics of finished product exports in 2021-2023, and a decrease in 2024 compared to 2021, in particular, the growth rate was 95%.

The research object is the private enterprise "CHUST TEXTILE", located in the city of Chust, Namangan region.

The enterprise specializes in the production of knitted shirts and shirts, T-shirts, T-shirts and bed linen for men and boys.

The activities of the private enterprise "CHUST TEXTILE" are characterized by the following indicators (Table 3).

Table 3

Dynamics of the main indicators characterizing the activities of the private enterprise "CHUST TEXTILE"

Indicators	Unit of measurement	2021-year	2022-year	2023- year	2024- year	2024- year. 2021- per year relatively, %
Product production capacity	A thousand pieces	6681,0	7182,0,	7560,0	8400,0	125,7
	One thousand soums	188335563	203402409	220729690	258163380	137,1
Export volume	A thousand dollars.	18389,6	19676,9	25156,9	21343,1	116,1
Number of workers	piece	1028	1121	1160	1276	124,1

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Average labor productivity	piece One thousand soums	6499 18320,6	6407 181447,3	6517 190284,2	6583 202322,4	101,3 110,4

Source: Author's development based on company data.

At the private enterprise "CHUST TEXTILE" in 2021-2024, the volume of product production had a growth trend in both in-kind and value units, with growth rates of 125.7% and 137.1% in 2024 compared to 2021, respectively.

In the private enterprise "CHUST TEXTILE" in 2021-2024, there will be a growth trend in terms of product export volume, number of employees and average labor productivity indicators.

The main indicators characterizing the efficiency of management of textile enterprises are profit and profitability indicators.

Since the processes in knitting and weaving enterprises, which are one of the leading sectors of the textile industry, are mechanized processes, the role of innovations, the introduction of new equipment and technologies in increasing the profit and profitability of the enterprise is high.

We base the influence of this factor on the activities of the enterprise "LUKBO TEKSTIL" LLC, which produces ready-made men's outerwear, by studying innovative technologies. The introduction of new models of knitting machines and advanced technologies that allow reducing raw material consumption in the enterprise's weaving production is one of the urgent issues today.

The number of machines required to produce a unit of knitted fabric or products from raw yarn of different linear densities varies, since the speed, diameter, and number of needles of the main output devices of the equipment vary. Therefore, the cost of manufacturing the product also varies accordingly. The productivity, price, and consumption of material and labor resources of foreign companies offered to the market vary.

In determining the most efficient options for knitting equipment offered below, we will focus on determining their productivity, the need for capital investment in electricity and labor, the costs of repairing and servicing the equipment, and select the most effective option based on the results of the calculations. We will conduct the selection based on a comparison of the technical indicators of knitting equipment manufactured by companies from Germany, Italy and Korea, which have the largest share in the republic's knitting enterprises.

In option I, we accept knitting machines from Mayer FGL (Germany)

In option II, Orizio Cmolya (Italy)

In option III, Sang Yoving SRF (Korea) (Table 4).

Table 4

Results of comparative analysis on the selection of efficient sewing machines in tailoring enterprises

Name	Unit of measure	Mayer	Orizio	Sang Yoving SRF	The difference (+,-)	
					Orizio	Sang
Product size	tons	3317,0	3183,8	3150,4	+133,2	+166,6
Net profit discount rate	soum	3317	3184	3150	+133	- 34
Internal rate of return	soum	2337,16	1543,5	2037,98	+793,66	+494,48
Net discount rate	%	3,8	2,8	3,5	+1,0	+ 0,7
Size of harmless product	tons	1,25	1,154	1,155	+ 0,096	+ 0,001
Payback period of the investment	year	580	780	660	+ 200	+ 120
Fund capacity	soum /kg	2,9	11,8	7,4	+ 8,9	+ 4,4
Electricity capacity	kW/t	2413,6	5843,2	2707,6	+ 3429,6	+ 3135,6
Product performance	%	48,0	22,0	40,0	+26,0	+18,0

Source: Author's development based on company data.

From the analysis of data showing economic efficiency by options, the following conclusions can be drawn: the volume of output in the enterprise in option I is 133.2 tons less than in option II and 166.6 tons less than in option III, since they have higher machine productivity.

The net discount rate of profit in option I is 33.9% less than in option II and 24.3% less than in option III, since the amount of profit from product sales is higher in it.

The internal rate of profit in option I is 6.7% higher than in option II and 13.3% higher than in option III.

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The net discount rate in option I is 1.0% lower than in option II and 0.7% lower than in option III, since they have higher net profit rates and internal profit rates.

According to the options, the volume of harmless products is 16.6 tons less in option I than in option II, and 25.4 tons less in option III, because they have lower production costs, and as a result, the conditional fixed costs per unit of product are lower.

The product efficiency index is 26% less in option I than in option II, and 18.0% less in option III, because they have higher profit margins and lower production costs.

Thus, the results of the comparative analysis conducted on the selection of the most efficient and highly productive sewing equipment in the technological process, which is considered one of the important factors in increasing the efficiency of garment production management, lead to the conclusion that the most efficient of the three options presented is option I, that is, the introduction of Mayer sewing machines into production, which gives high efficiency.

At the same time, the products of garment and knitwear enterprises are inextricably linked to the satisfaction of consumer desires, their modernity, and the level of quality. Therefore, we believe that in our research, it is necessary to study the impact of product quality on the efficiency of enterprise management.

CONCLUSION AND SUGGESTIONS.

Practical recommendations for product quality management and increasing the competitiveness of textile enterprises are as follows:

1. Introduction of innovative technologies: The example of “LUKBO TEKSTIL” LLC has proven the high efficiency of Mayer (Germany) knitting machines (product volume 3317 tons, net profit discount rate 3317 soums, product efficiency 48%). It is also recommended that “BIRYUZA GROUP” and “CHUST TEXTILE” enterprises introduce modern knitting machines, use advanced technologies that reduce raw material and energy consumption. This can reduce production costs by 20-30% while improving product quality.

2. Standardization of product quality: Enterprises should pay attention to obtaining certificates in accordance with international quality standards (ISO 9001, Oeko-Tex). Quality control systems should be introduced to constantly monitor product quality. For example, expanding the range of women's clothing at BIRYUZA GROUP and adapting the design of knitwear products at CHUST TEXTILE to modern market requirements will increase competitiveness.

3. Employee training: To increase labor productivity, it is necessary to train employees in the use of modern technologies. The decrease in labor productivity at “LUKBO TEKSTIL” (92.1%

in 2024 compared to 2021) may be due to a lack of skills. Through training and advanced training courses, employee productivity can be increased by 10-15%.

4. Expand export markets and improve marketing strategies: “LUKBO TEKSTIL” (export volume 77% in 2024) and “BIRYUZA GROUP” (95%) have experienced a decrease in exports. To increase competitiveness, it is recommended to participate in international exhibitions, pay attention to modern design and quality of products, as well as develop digital marketing strategies (online platforms, social networks). This can increase export volume by 20-25%.

5. Focus on socio-economic efficiency: By improving working conditions, utilizing the creative potential of employees, and implementing environmentally friendly production processes, enterprises can increase not only economic but also social efficiency. For example, the steady growth (exports 137.1%) at “CHUST TEXTILE” demonstrates the success of this approach.

The above recommendations will allow “LUKBO TEKSTIL”, “BIRYUZA GROUP” and “CHUST TEXTILE” to improve product quality, reduce production costs, and strengthen competitiveness in international markets. By investing in innovation, quality control, and marketing strategies, enterprises can increase economic efficiency by 15-20%.

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