

IMPROVING THE METHODOLOGY OF PRODUCT COST FORMATION IN CARPET MANUFACTURING ENTERPRISES

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Abstract: this paper examines the principles of cost formation in the carpet manufacturing industry, focusing on strategies to enhance cost calculation methods in production enterprises. It highlights the importance of accurate cost classification, the impact of cost price on competitiveness, and the role of digital technologies in expense management. Using Evaks Fabric LLC as a case study, the research analyzes how production costs are tracked, calculated, and optimized. It also outlines government policies aimed at supporting carpet manufacturing in Uzbekistan, along with practical solutions to reduce production costs and improve profitability.

Keywords: carpet, production costs, cost price, cost optimization, digital systems, expense classification, manufacturing efficiency

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Аннотация: в статье рассматривается распространенность инфекции *Str.pneumoniae* у телят в разных регионах на основе литературных данных. В статье представлена информация о патогенезе стрептококковой пневмонии у телят, ее возрастных изменениях, а также специфических клинических и патолого-анатомических показателях. Цель исследования - выяснить патологические процессы при остром или хроническом течении стрептококковой инфекции у телят.

Ключевые слова: *Str.pneumoniae*, инфекция, колониеобразующая единица, заражение, доза, питательная среда, литературные данные, телёнок, сепсис, пневмония, вакцина.

СОВЕРШЕНСТВОВАНИЕ МЕТОДИКИ ФОРМИРОВАНИЯ СЕБЕСТОИМОСТИ ПРОДУКЦИИ НА ПРЕДПРИЯТИЯХ ПО ПРОИЗВОДСТВУ КОВРОВ

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Аннотация: в данной статье рассматриваются принципы формирования себестоимости в ковровой промышленности, уделяется внимание стратегиям совершенствования методов расчёта затрат на производственных предприятиях. Отмечается важность правильной классификации расходов, влияние себестоимости на конкурентоспособность, а также роль цифровых технологий в управлении затратами. На примере ООО «Evaks Fabric» проанализированы процессы учёта, расчёта и оптимизации производственных расходов. Также изложены государственные меры поддержки коврового производства в Узбекистане и представлены практические решения по снижению производственных затрат и повышению рентабельности.

Ключевые слова: ковер, производственные расходы, себестоимость, оптимизация затрат, цифровые системы, классификация расходов, эффективность производства.

INTRODUCTION

Carpets are textile-based products primarily used for floor coverings, insulation, soundproofing, and interior decoration. These products can be handwoven or machine-made using materials such as wool, cotton, silk, or synthetic yarns. Carpet weaving, a tradition rooted in Uzbekistan's cultural heritage, continues to be a significant sector within the country's manufacturing industry.

To develop this sector, the government of Uzbekistan has introduced several legal frameworks and policy measures. Key legislative acts include:

Presidential Decree No. PQ-4759 dated June 26, 2020, titled "On Measures for the Development of the Handmade Carpet Industry in the Republic."

Presidential Decree No. PQ-181 dated May 20, 2024, "On Measures to Take the Leather-Footwear, Silk, and Carpet Industries to a New Stage of Development."

Presidential Decree No. PQ-284 dated August 6, 2024, which introduced amendments to PQ-181.

As a result of these efforts, in the first half of 2024, large enterprises in Uzbekistan produced approximately 16.5 million square meters of carpets, reflecting a 12.4% increase compared to the same period in 2023.

The Significance of Cost Price in Manufacturing

Cost price, or production cost, plays a fundamental role in pricing strategies. If cost price is inaccurately high, it can significantly reduce a product's market competitiveness. Therefore, transparent and precise cost management is essential to ensure profitability and sustainable growth.

Companies operating in the carpet industry must continuously assess and adjust their cost structures to remain competitive, both domestically and internationally.

DIGITAL COST MANAGEMENT TOOLS

At Evaks Fabric LLC, cost management is conducted through integrated ERP platforms such as 1C: Accounting. These systems allow real-time tracking of production expenses and provide the following benefits:

Accurate calculation of cost price per product type

Identification of resource overuse (materials, electricity, labor hours)

Opportunities to optimize technological processes and reduce wastage

The use of such systems enhances overall financial transparency and improves decision-making based on real-time data.

EVALUATING COSTS THROUGH NORMATIVE ANALYSIS

In a well-functioning production process, each technological operation should be based on standardized consumption indicators. These include norms for material usage, labor time, and energy input. By comparing actual data against these norms, companies can identify deviations, analyze inefficiencies, and take preventive action against unnecessary losses.

For instance, if the actual energy usage per square meter of carpet exceeds the standard rate, production supervisors can investigate the cause and implement corrective measures.

REDUCING RAW MATERIAL COSTS

One of the most direct ways to lower the overall cost of carpet production is to reduce raw material expenses. At Evaks Fabric LLC, this is achieved through the following strategies:

Sourcing from local suppliers through direct contractual agreements, which minimizes logistics and customs costs. Utilizing government customs exemptions on imported raw materials like synthetic latex or specific yarn types. This approach not only cuts down procurement costs but also fosters collaboration with domestic industries.

COST DIFFERENTIATION BY PRODUCT ASSORTMENT

Carpet manufacturers typically produce a variety of products with different patterns, sizes, and technical specifications. As such, the cost price must be calculated individually for each type of product. Some key reasons for cost variation include:

Intricate patterns or customized designs require more manual labor and longer production time. Premium-quality or tailor-made carpets may involve more expensive inputs or additional energy consumption. Therefore, cost accounting systems must be capable of detailed product-level cost calculation, enabling the company to set appropriate prices for each product.

Importance of Accurate Expense Classification. Proper classification of expenses is critical for financial planning and internal controls. At Evaks Fabric LLC, expenses are classified into:

1-table: by purpose

№	Type	Description
1	Production Costs	Directly related to carpet manufacturing processes
2	Non-Production Costs	Administrative, marketing, and distribution expenses

Only **production costs** are included in the **cost price** of carpets.

2-table: by structure

№	Type	Description
1	Direct Costs	Costs linked to a specific product (e.g., yarn, labor)
2	Indirect Costs	Shared production costs (e.g., electricity, maintenance)

3-table: by behavior

№	Type	Description
1	Fixed Costs	Remain constant regardless of output volume (e.g., rent)
2	Variable Costs	Fluctuate based on production volume (e.g., raw materials)

Correct classification enables effective budgeting, cost tracking, and supports pricing strategies aligned with market conditions.

Main components of carpet production cost (case study: evaks fabric llc)

4-table: the cost price per square meter of carpet at evaks fabric is structured as follows

№	Cost Component	Amount (UZS)	Share (%)
1	Raw materials and supplies	35,000	58%
2	Labor and social payments	10,000	17%
3	Energy consumption	6,000	10%
4	Depreciation of equipment	3,000	5%
5	Auxiliary materials	2,500	4%

6	Other production expenses	3,000	5%
	Total Cost Price	59,500	100%

The product is generally sold for approximately 75,000 UZS, resulting in a gross profit margin of 15,500 UZS, excluding taxes and VAT.

Expenses Excluded from Cost Price

4-table: according to national accounting standards, certain expenses are excluded from product cost but still affect the net financial results of the company

№	Expense Category	Description
1	Advertising & marketing	Branding, promotions, banners, social media ads
2	Administrative overhead	Office rent, supplies, equipment
3	Loan interest	Borrowing costs for machinery and infrastructure
4	Social benefits	Employee meals, uniforms, gifts
5	Financial losses	Damaged goods, undelivered shipments

These costs are reported separately as period or administrative expenses and do not directly influence the cost price but do reduce the net profit.

Incorporating Modern Technologies in Cost Management

The rapid advancement of digital technologies, including Industry 4.0 solutions, Internet of Things (IoT), and artificial intelligence (AI), is revolutionizing cost management in manufacturing sectors worldwide, including carpet production. Automated data collection and real-time monitoring of production processes enable companies to optimize resource utilization and reduce waste.

For example, IoT sensors can monitor energy consumption and machinery efficiency, alerting managers to inefficiencies or maintenance needs before costly breakdowns occur. Moreover, AI-powered analytics can forecast material requirements and labor allocation more accurately, allowing for precise budgeting and inventory control.

Implementing such technologies not only enhances cost transparency but also supports proactive decision-making, leading to increased productivity and lower overall production costs.

Impact of Global Market Trends on Carpet Manufacturing Costs

The carpet industry is influenced by global trends such as fluctuating raw material prices, changing labor markets, and evolving consumer preferences. For instance, increases in wool and synthetic fiber costs on the international market can directly raise production expenses for manufacturers. Additionally, international trade policies, tariffs, and customs regulations affect the cost of imported materials and export opportunities. Companies like Evaks Fabric LLC benefit from national policies offering customs privileges but must also remain agile to adapt to potential global supply chain disruptions. Sustainability has become a growing concern globally, pushing manufacturers to adopt environmentally friendly raw materials and production methods. While this may initially increase costs, it opens new market segments and complies with international standards, ultimately enhancing competitive advantage.

Strategic Cost Optimization through Continuous Improvement.

Continuous improvement methodologies such as **Lean Manufacturing** and **Six Sigma** can be applied in carpet production to systematically reduce waste and improve process efficiency. By mapping value streams and identifying non-value-adding activities, companies can streamline operations and lower costs without compromising quality. Training employees in these methods creates a culture of ongoing efficiency improvement, which is essential in highly competitive

industries. Combined with digital tools, these methodologies provide a comprehensive approach to optimizing production costs and maintaining profitability.

ENHANCING PRODUCTION EFFICIENCY AND COMPETITIVENESS

To remain competitive in the global carpet market, manufacturing enterprises must prioritize production efficiency. This involves optimizing labor productivity, minimizing material wastage, and improving machinery utilization rates. Investing in staff training and skill development is critical, as skilled workers can significantly reduce defects and increase output quality.

Moreover, adopting automation technologies in repetitive or labor-intensive tasks can lower labor costs and increase consistency in product quality. For example, automated looms and cutting machines can accelerate production while reducing errors.

Continuous monitoring of key performance indicators (KPIs) such as production cycle time, defect rates, and energy consumption per unit allows management to identify bottlenecks and areas for improvement. Regular audits and feedback loops promote a culture of continuous improvement, which is essential for long-term sustainability.

Importance of Strategic Cost Management in Export-Oriented Enterprises

For companies focused on exports, such as many carpet manufacturers in Uzbekistan, strategic cost management plays a pivotal role in pricing competitiveness on international markets. Export-oriented enterprises must carefully balance production costs with quality standards demanded abroad.

Implementing a cost-plus pricing strategy ensures that all costs—including direct, indirect, fixed, and variable—are covered while allowing for a reasonable profit margin. Additionally, understanding currency fluctuations and hedging against risks can protect profit margins in volatile global markets. Firms should also consider adopting green manufacturing practices, as international buyers increasingly prefer environmentally responsible products. While this may require initial investment, it can open access to premium markets and enhance brand reputation.

Additional Insights on Cost Control and Sustainable Development in Carpet Manufacturing

Effective cost control not only contributes to increased profitability but also supports the sustainable development of carpet manufacturing enterprises. Sustainable cost management includes reducing waste, improving energy efficiency, and responsibly sourcing raw materials. Companies increasingly recognize the importance of environmentally friendly production techniques, such as using natural dyes, recycling textile scraps, and optimizing water consumption during production. These practices can reduce long-term costs and align with global environmental standards, attracting conscious consumers and international buyers.

Moreover, integrating supply chain management practices helps minimize costs by optimizing inventory levels and delivery schedules. Collaboration with suppliers to improve material quality and delivery reliability also reduces risks of production delays and cost overruns. Finally, transparent and detailed financial reporting based on accurate cost classification helps companies secure investor confidence and comply with international accounting standards, supporting long-term financial health.

CONCLUSION

Improving cost calculation methodology is essential for carpet manufacturing enterprises aiming to achieve operational efficiency and remain competitive. The case of Evaks Fabric LLC illustrates how proper cost classification, digital tools, and cost optimization strategies can:

Enhance pricing accuracy, Support strategic financial decisions, Improve profitability, Increase export readiness.

In an increasingly competitive market, the ability to precisely track, control, and optimize production costs is a key success factor for sustainable business growth.

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