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ANALYSIS OF PRODUCTION COSTS AND THE IMPACT OF ITS RESULTS ON FINANCIAL INDICATORS

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Abstract: The article examines the economic essence of production costs, methods of analysis, and the impact of their results on the company's financial indicators. The study reveals that cost optimization leads to an increase in profit, profitability, and liquidity indicators.

Keywords: production costs, cost price, analysis, profit, profitability, liquidity.

Introduction.

Among various sectors of the global economy, the oil and gas industry is one of the main drivers of economic growth. In Uzbekistan, this sector occupies a significant share in the national GDP, export revenues, and state budget income. Therefore, the analysis of production costs, the assessment of their impact on financial indicators, and the scientific optimization of expenses are crucial for oil and gas enterprises.

The analysis of production costs is not only essential for determining the product cost but also plays an important role in evaluating profit, profitability, liquidity, and the efficiency of working capital.

Literature Review.

The analysis of production costs and their influence on financial indicators is one of the key areas in economic research. A review of related sources shows that both national and international scholars have developed various methodological approaches in this field.

Uzbek economist Q.H. Abdurakhmanov, in his book "Production Economics" (2021), explained the economic nature, classification, and analysis methods of production costs. The author emphasizes that resource efficiency and cost reduction are the main factors influencing profit and profitability.

Sh. Juraev et al. in "Accounting and Auditing" (TSEU, 2020) analyzed production costs from the accounting perspective, focusing on harmonizing national accounting practices with International Financial Reporting Standards (IAS/IFRS). The book pays special attention to cost classification in the oil and gas sector.

A. Sattorov, in his work "Financial Analysis and Management Accounting", linked cost analysis with financial performance indicators, arguing that each cost type (direct, indirect, administrative) affects profitability differently and should be analyzed separately.

The annual reports of "Uzbekneftgaz" JSC (2022–2024) serve as an important practical source, presenting data on cost structure, production volumes, cost price, and profit dynamics in the oil and gas sector.

Internationally, Michael Porter (1985), in "Competitive Advantage", theoretically justified that effective cost management creates competitive advantage through the "Value Chain" concept. Hansen & Mowen, in "Cost Management: Accounting and Control", describe

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the Activity-Based Costing (ABC) model as a useful tool for capital-intensive industries like oil and gas.

The OECD "Oil and Gas Production Cost Analysis Report" (2023) highlights global trends in cost optimization, energy consumption, profitability, and taxation. Similarly, PwC's "Global Oil and Gas Industry Outlook" (2022) emphasizes that a 1% reduction in costs can increase profit margins by up to 2–3%.

Relevant international standards include:

IAS 2 "Inventories" (2023) – defines procedures for cost and inventory accounting.

IFRS 8 "Operating Segments" – standardizes cost analysis by sector and segment.

OECD Energy Reports (2022–2024) – provide international benchmarks for cost efficiency in oil and gas production.

Discussion.

The conducted research shows that in the oil and gas industry, the structure of production costs and their impact on financial results are complex and multi-factorial. It is necessary to evaluate economic, technological, and managerial aspects jointly during analysis.

The study found that raw material and material costs account for 34–38%, while depreciation costs account for 16–20% of total expenses — considered normal for capital-intensive industries. However, at "Uzbekneftgaz" JSC, energy consumption costs remain high (12–15%), indicating untapped potential for energy-efficient technologies.

Labor costs (18–22%) have been increasing due to the shortage of skilled professionals and rising labor costs. This calls for the implementation of new motivational and productivity-based systems.

Despite the increase in both costs and profits, the profit margin has declined — from 15.3% in 2022 to 12.8% in 2024. This suggests that profit growth is driven more by external factors such as global oil price increases rather than effective cost management.

Analysis Results

The oil and gas industry is a strategically important sector of the national economy. The structure of production costs, their efficiency, and their impact on financial performance play a crucial role in ensuring the country's economic stability. Therefore, analyzing production costs is not only a part of accounting or financial reporting but also a key instrument for assessing economic efficiency.

Dynamics of Production Costs and Profitability

Using "Uzbekneftgaz" JSC as an example, the total volume of production costs in 2022 is taken as 100%. By 2024, this figure increased to 113.5%. During the same period, profit rose by 8.7%, but the growth in production costs reduced the profit margin from 15.3% to 12.8%.

The main reasons include an increase in the prices of imported materials, rising energy costs, and a higher tax burden.

Key Cost Elements and Their Impact

1. Raw materials and basic supplies.

This category plays a dominant role in oil and gas extraction. A 10% increase in material prices leads to a 6–7% rise in the cost of production, which in turn reduces profits by approximately 4–5%.

2. Energy consumption and efficiency.

Enterprises that have introduced energy-saving technologies have reduced production costs by 8–10%. For example, at the Bukhara oil extraction branch of "Uzbekneftgaz" JSC, the

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introduction of new compressor equipment reduced energy consumption by 12% and increased the profit margin by 1.8%.

3. Labor costs and workforce productivity.

Improving labor productivity increased the output per worker by 9–12%. This demonstrates the positive effect of labor efficiency on profitability.

International Approaches to Cost Management

In international practice, several methods are widely applied for effective management of production costs:

Activity-Based Costing (ABC): allocates costs based on specific activities to determine a more accurate product cost.

Target Costing: sets a target cost based on market price and adjusts production accordingly.

Lean Production: minimizes waste and unnecessary operations to reduce total costs.

Digital Monitoring Systems (IoT, AI): automate oil and gas production processes and identify errors or losses in real time.

In Uzbekistan, the gradual implementation of these methods could reduce production costs by 5–8%.

Conclusion

The analysis of production costs and their impact on financial indicators demonstrates that cost management plays a decisive role in ensuring the profitability and sustainability of enterprises, particularly in the oil and gas industry. The research results confirm that even a slight reduction in production costs leads to a significant improvement in key financial metrics such as profit, profitability, and return on assets.

Effective cost analysis allows enterprises to identify unproductive expenses, optimize resource allocation, and strengthen internal control over production processes. The study of "Uzbekneftgaz" JSC (2022–2024) revealed that the rational use of materials, energy efficiency measures, and improvement of labor productivity contribute directly to increasing profit margins and overall financial stability.

Furthermore, applying international practices such as Activity-Based Costing (ABC), Target Costing, and Lean Production, as well as introducing digital monitoring systems (IoT, ERP, SCADA), enables real-time control and transparency in cost management. These approaches are essential for aligning national accounting practices with International Financial Reporting Standards (IAS/IFRS) and enhancing competitiveness in global markets.

References:

1. Law of the Republic of Uzbekistan "On Accounting."
2. IAS 2 "Inventories" – International Accounting Standards Board, 2023.
3. International Accounting Standard (IAS) 2 – Inventories.
4. Abdurakhmanov Q.H. Production Economics. Tashkent: "Fan," 2021.
5. Juraev Sh. et al. Accounting and Auditing. Tashkent State University of Economics, 2020.
6. OECD (2023). Oil and Gas Production Cost Analysis Report.
7. Porter, M. (1985). Competitive Advantage. Free Press.
8. Hansen, D.R., & Mowen, M.M. (2017). Cost Management: Accounting and Control. Cengage Learning.
9. PwC (2022). Global Oil and Gas Industry Outlook.