WAYS TO IMPROVE THE EFFICIENCY OF USING FIXED PRODUCTION ASSETS IN ENTERPRISES

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Abstract
This article examines the scientific and methodological aspects of improving the efficiency of using fixed production assets in construction enterprises. The role of fixed assets in the production process, their technical condition, and the key factors influencing economic efficiency are analyzed. In addition, practical ways to enhance fixed asset utilization efficiency are proposed based on fixed asset turnover, fixed asset profitability, and depreciation policy. The research findings contribute to increasing production efficiency in construction enterprises and improving managerial decision-making.

Keywords: Fixed production assets, efficiency, fixed asset turnover, fixed asset profitability, depreciation, construction enterprise.

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Introduction

In the context of globalization and intensifying economic competition, the sustainable development of the construction sector largely depends on the level of efficient utilization of fixed production assets available in construction enterprises. The production capacity, technical potential, and economic performance of construction enterprises are directly determined by the structure of fixed assets, their technical condition, and the efficiency of their utilization. Therefore, improving the efficiency of using fixed production assets has become a highly relevant scientific and practical issue today.

In the Republic of Uzbekistan, the development of the construction sector, modernization of infrastructure, and commissioning of new production capacities have been identified as priority areas of state economic policy. Within this process, strengthening the material and technical base of construction enterprises, introducing modern equipment and technologies, and increasing the efficiency of fixed asset utilization are considered key tasks. In particular, the physical and moral depreciation of fixed assets, as well as their timely renewal and modernization, remain decisive factors in ensuring the competitiveness of construction enterprises.

In order to accelerate economic development in the near future and improve living standards, the President of the Republic of Uzbekistan, Sh. M. Mirziyoyev, adopted the *Development Strategy of New Uzbekistan*, on the basis of which a development program for the period 2023-2026 was formulated. This program defines the main priority areas of economic development and implements measures primarily aimed at increasing production potential and ensuring public welfare.

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At present, special attention is being paid to the development of the material and technical base of construction enterprises in the country. In particular, Resolution No. PQ-2137 *"On Measures to Further Develop Construction Organizations and Strengthen Their Material and Technical Base"*, the Cabinet of Ministers' Resolution No. 108 adopted for its implementation, as well as Resolution No. 11 *"On Additional Measures to Ensure the Sustainable Operation of Industrial Enterprises and Construction Organizations and the High-Level Utilization of Their Capacities"* serve as an important regulatory and legal framework in this area.

In the construction sector, identifying the condition, structure, and efficiency of fixed production assets of contracting enterprises and renewing them accordingly is of particular importance. For this purpose, it is necessary to identify fixed assets that have a significant impact on the growth of production volume and efficiency and to optimize their utilization. These circumstances indicate that developing the material and technical base of construction and design enterprises in line with modern requirements remains one of the most pressing and yet unresolved issues in the construction industry.

Practical experience shows that in many construction enterprises the utilization of fixed production assets is not sufficiently efficient. This leads to increased production costs, higher unit costs, and declining financial results. Therefore, there is a growing need to identify ways to improve the efficiency of fixed production asset utilization, enhance evaluation indicators, and develop effective management mechanisms for this process.

Degree of Research on the Problem

Issues related to construction economics and the economics of construction enterprises have been widely studied by foreign and CIS scholars. In particular, the works of foreign researchers such as A. Arens, R. Dodiy, and R. Antonio examine capital utilization efficiency, fixed asset valuation, and the justification of investment decisions. Among CIS scholars, the studies of P. S. Stepanov, L. F. Sukhova, T. G. Doroshenko, O. V. Efimova, and others provide scientific analyses of the economic nature of fixed assets, depreciation levels, and methods for calculating fixed asset turnover and profitability.

During the years of independence in the Republic of Uzbekistan, a number of scientific studies have been conducted on enterprise economics and the utilization of fixed assets. In particular, the works of K. B. Urazov, T. G. Gulyamova, U. T. Fayziyeva, M. Q. Ziyoyev, A. N. Djabriev, K. B. Ganiyev, V. U. Yodgorov, R. I. Gimush, I. X. Davletov, and D. R. Khairov address certain economic aspects of the construction sector. However, despite these contributions, modern, comprehensive, and industry-specific methodological approaches to assessing the efficiency of fixed asset utilization have not been sufficiently developed.

This situation substantiates the need to improve the indicators for assessing the efficiency of fixed asset utilization in construction enterprises and the methods for their calculation from a scientific and methodological perspective.

Analysis and Results

In construction enterprises, fixed production assets constitute the material basis of the production process, and their technical condition and level of utilization are key factors

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determining overall economic efficiency. Efficient use of fixed assets enables full utilization of production capacity, reduction of production costs, and improvement of financial performance. The efficiency of fixed production asset utilization is assessed using indicators such as fixed asset turnover, fixed asset profitability, capital intensity, and depreciation rate. These indicators help identify the economic relationship between fixed assets and production results and reveal internal reserves within the enterprise.

The main ways to improve the efficiency of fixed production asset utilization include modernization of fixed assets, introduction of modern equipment and technologies, improvement of depreciation policy, and optimization of management processes. The comprehensive implementation of these measures significantly enhances the efficiency of fixed asset utilization in construction enterprises.

The indicators used to evaluate fixed production asset utilization can be conditionally divided into two main groups. The first group consists of aggregate and value indicators, which allow assessment and analysis of different groups of fixed assets in static and dynamic terms, identification of reserves, and forecasting of future development trends. This group includes fixed asset turnover, capital intensity, and fixed asset profitability.

The second group includes specific and natural indicators, which mainly characterize the utilization level of the active part of fixed production assets-machinery and equipment. These indicators include the coefficient of extensive utilization, the coefficient of intensive utilization, and the integral utilization coefficient.

The coefficient of extensive utilization reflects the time-based use of machinery and equipment and is calculated as the ratio of actual operating time to planned operating time. The coefficient of intensive utilization reflects the level of capacity or productivity utilization. The integral utilization coefficient takes into account the combined effect of extensive and intensive factors, allowing a more comprehensive assessment of fixed asset utilization efficiency.

Each of these indicators has independent practical significance and is used for different management purposes. For example, when assessing time-based utilization of fixed production assets, indicators such as shift coefficient, equipment downtime, and utilization coefficients by shifts are applied.

$$K_{экс} = \frac{t_{хак}}{t_{реж}}$$

Bu yerda:

t_{xak} – actual operating time of the equipment, hours;

t_{rej} – standard (normative) operating time of the equipment, hours.

The **equipment load coefficient** also characterizes time-based utilization of equipment. Unlike the shift coefficient, it takes into account the labor intensity of production. It is determined as the ratio of the total labor input of all products manufactured on the given equipment to its available operating time fund.

To comprehensively assess the utilization of fixed production assets in an enterprise, it is important not only to analyze extensive indicators but also to examine the nature of capacity utilization. As noted above, this is carried out using the **coefficient of intensive utilization**,

which is calculated as the ratio of the actual productivity of technological equipment to its technically justified progressive (normative) productivity, according to the following formula:

$$K_{int} = \frac{V_f}{V_p};$$

Bu yerda: V_F – actual output produced by the equipment per unit of time;
V_P – technically justified normative output per unit of time.

The **integral utilization coefficient** of equipment is determined as the product of the coefficients of extensive and intensive utilization and provides a comprehensive characterization of equipment utilization in terms of both time and capacity.

From the perspective of general and value-based indicators of fixed production asset utilization, particular attention should be paid to **fixed asset turnover**, which characterizes the volume of output produced per unit value of fixed assets. It is calculated as the ratio of annual revenue from product sales (**V**) to the average annual value of fixed production assets:

$$\Phi_к = \frac{B}{\Phi_c}$$

The **capital intensity of production** is the inverse value of fixed asset turnover and is determined using the following formula:

$$F_s = \frac{F_{ur}}{V}$$

Capital intensity is closely related to the saving or increase of capital investments. For example, when capital intensity decreases while production volume remains constant or increases, the conditions for utilizing fixed production assets improve, creating opportunities for saving capital investments. The amount of capital savings is calculated using the following formula:

$$E_k = \Phi_{ye} \times B$$

Where:

- E_k – capital investment savings, UZS;
- F_e – change in capital intensity of production in the reporting year compared to the previous year, UZS.

Improving the efficiency of fixed production asset utilization in an enterprise primarily requires reducing equipment downtime during shifts and preventing such occurrences. This ensures continuity of the production process and allows full utilization of available capacity. At the same time, increasing the shift coefficient—by transitioning to two- or three-shift operation—significantly improves the level of fixed asset utilization.

Identifying idle equipment and reducing or completely eliminating it is also an important direction, as unused machinery lowers overall fixed asset efficiency. Maintaining a stable technical condition of fixed assets requires timely and high-quality maintenance and preventive measures, which extend equipment service life and reduce emergency failures.

In addition, improving the qualifications of personnel operating equipment ensures correct and efficient use of machinery and technologies. Enhancing the organization of production and the resource supply system helps reduce disruptions caused by shortages of raw materials and spare parts, thereby increasing the efficiency of fixed production asset utilization.

To illustrate the practical significance of the above directions, the condition of fixed production assets of "MUBORAKNEFTGAZMONTAJ" JSC for the period 2023-2024 is analyzed.

Table 1.1 Condition of Fixed Production Assets of "MUBORAKNEFTGAZMONTAJ" JSC in 2023–2024 (thousand UZS)

Indicators	2023	2024	Change ratio	Difference (+/–)
Initial value	2,337,608	2,851,882	122	514,274
Revenue from product sales	11,964,884	20,579,600	172	8,614,716
Residual value of fixed production assets	1,303,947	1,538,657	118	234,710
Degree of serviceability	55.8	66.4	119	10.6
Degree of depreciation	44.2	32.1	73	–12.1
Depreciation value	1,033,661	1,230,056	119	196,395
Capital intensity	0.16	0.26	162	0.10
Fixed asset turnover	6.1	7.8	128	1.7
Fixed asset profitability	1.2	1.9	158	0.7
Fixed asset return	1.3	2.1	161	0.8

The analysis shows that in 2023–2024, the value of fixed production assets and the efficiency of their utilization at "MUBORAKNEFTGAZMONTAJ" JSC demonstrated a positive trend. The increase in the initial value of fixed assets indicates the introduction of new machinery and equipment, while the faster growth of revenue from product sales confirms improved utilization efficiency. The increase in serviceability and reduction in depreciation rates confirm improvements in technical condition. Growth in fixed asset turnover, profitability, and return indicators practically demonstrates enhanced efficiency of fixed production asset utilization.

Conclusion and Recommendations

The results of the study indicate that the efficiency of fixed production asset utilization in construction enterprises is a key factor in increasing production volumes, improving financial performance, and enhancing competitiveness. Improving the technical condition of fixed assets, modernizing them, and increasing utilization intensity are the main directions for achieving higher efficiency.

Based on the research findings, the following scientific and practical recommendations are proposed:

- gradual renewal of obsolete fixed production assets and introduction of modern equipment and technologies;
- reduction of equipment downtime and increase of shift coefficients to ensure full utilization of production capacity;
- improvement of depreciation policy with targeted allocation of depreciation charges to modernization processes;
- timely implementation of maintenance and preventive measures and improvement of staff qualifications;

• optimization of production organization and resource supply systems.

The implementation of these recommendations will contribute to improving the efficiency of fixed production asset utilization in construction enterprises, reducing production costs, and strengthening the financial stability of enterprises.

References

1. Mirziyoyev, Sh. M. (2020, January 24). Address of the President of the Republic of Uzbekistan to the Oliy Majlis.
2. Office of the President of the Republic of Uzbekistan. (2019, January 8). Discussion on the introduction of a new phased system for attracting foreign investments at the videoconference meeting chaired by the President.
3. K.I. Ortikbaevich. Attracting investment projects to the construction industry and improving their efficiency. 2021. SAARJ Journal on Banking & Insurance Research 10 (1), 47-53
4. N Yusupdjanova, I Karimov. Investment projects in the field of construction materials production..2020. Theoretical & Applied Science, 18-21
5. Inomjon Ortikbaevich Karimov. Qurilish korxonalarida investitsiyalarni boshqarish samaradorligini aniqlashda vaqt omilining o‘rni va ahamiyati. O'zbekistonda fanlararo innovatsiyalar va ilmiy tadqiqotlar jurnali. 2 son. 2023/11/21
6. Karimov Inomjon Ortikbayevich. Factors affecting the effectiveness of investment management. Synergy: Cross-Disciplinary Journal of Digital Investigation (2995-4827). Vol. 2 No. 4 (2024)
7. I Karimov- YASHIL IQTISODIYOT VA TARAQQIYOT, 2025. Qurilish korxonalarida investisiyalarni boshqarishning xorijiy tajribalari va ularni mamlakatimizda foydalanish yo‘llari
8. Karimova I. Qurilish sohasida investitsion faoliyatni shakllantirishning nazariy va amaliy asoslari //MUHANDISLIK VA IQTISODIYOT. – 2025. – Т. 3. – №. 4.
9. Karimovich, G’iyosov Ilhom, and Karimov Inomjon Ortikbayevich. "The Role and Importance of the TIME Factor in Determining the Effectiveness of Investment Management in Construction Enterprises." American Journal of Business Management, Economics, and Banking 19 (2023): 93-99.
10. State Statistics Committee of the Republic of Uzbekistan. (n.d.). Official statistical data. Retrieved from https://www.stat.uz

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