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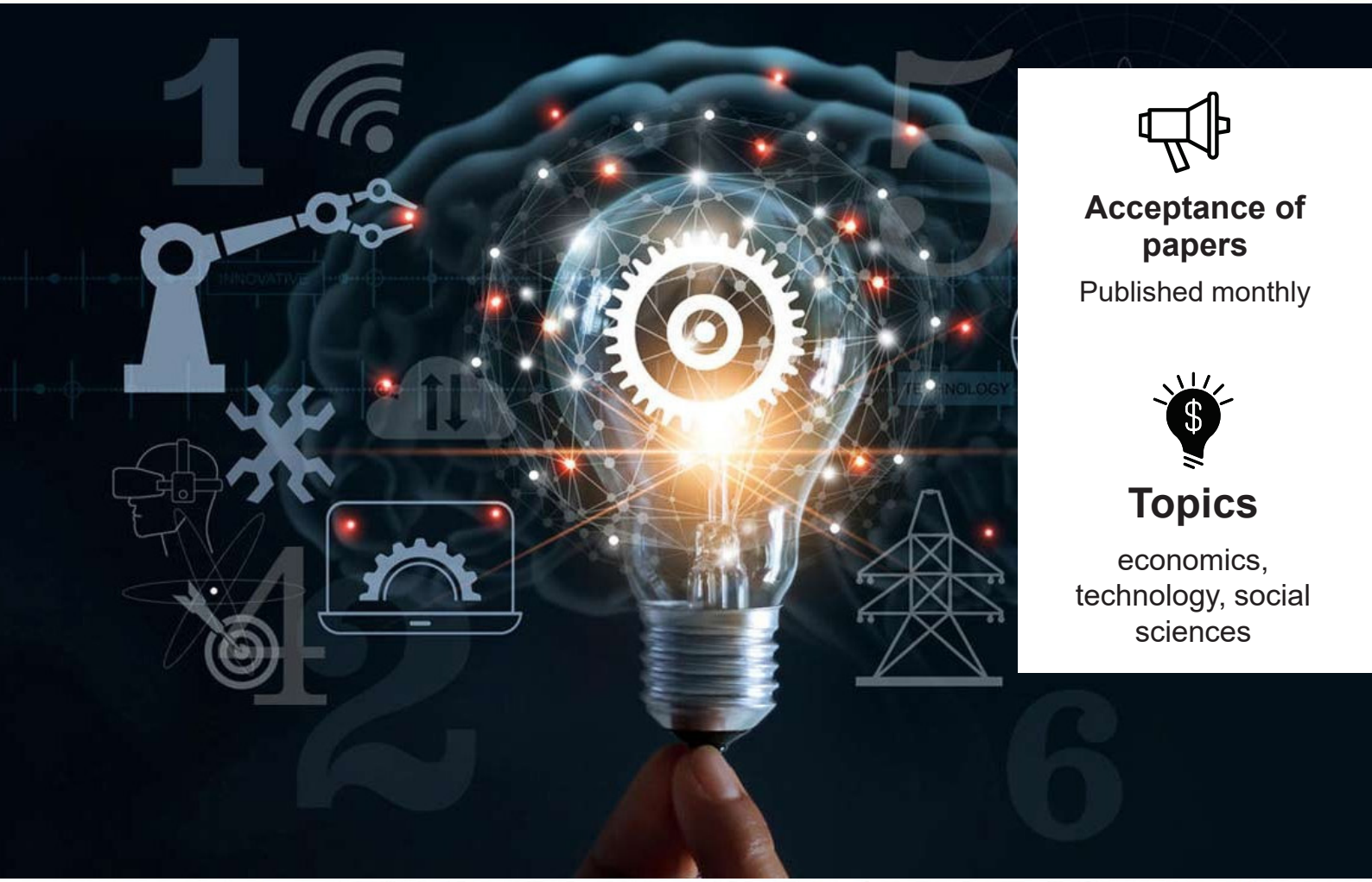

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PROBLEMS IN THE ACCOUNTING OF LONG-TERM ASSETS AND THEIR SOLUTIONS BASED ON INTERNATIONAL EXPERIENCE

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Abstract: This article presents a comprehensive analysis of the existing challenges in the accounting of long-term assets within enterprises in Uzbekistan. It outlines solutions grounded in international best practices by examining the experiences of countries such as Germany, the United States, and Japan. The study focuses on key aspects including fair value measurement, the integration of environmental criteria, the implementation of digital monitoring systems, and the development of depreciation policies. Based on these comparative insights, the article proposes practical recommendations tailored to the Uzbek context to enhance the transparency, accuracy, and efficiency of long-term asset accounting.

Key words: long-term assets, fair value, depreciation policy, ecological criteria, digitalization, international experience.

INTRODUCTION

In the era of the digital economy and rapid financial decision-making, long-term assets—such as production equipment, intangible assets, infrastructure, and biological assets—serve not only as indicators of financial stability but also as determinants of ecological and strategic priorities for organizations. The accounting system related to these assets must accurately reflect their fair value and provide transparent information to all stakeholders.

Unfortunately, numerous challenges persist in the practice of long-term asset accounting in Uzbekistan. These include subjectivity in valuation, improper recording of depreciation, and insufficient integration with international standards. Such issues undermine the reliability of corporate financial statements, complicate the auditing process, and may convey misleading signals to investors.

The primary aim of this article is to conduct a systematic analysis of the problems encountered in the accounting of long-term assets, identify their root causes, and propose effective solutions derived from international best practices that can be adapted to the national context. In particular, the application of International Financial Reporting Standards (IFRS), as well as advanced approaches observed in countries like Germany, the United States, and Japan, may serve as valuable resources for improving the national accounting framework.

LITERATURE REVIEW

In his dissertation titled “Problems in the Valuation of Fixed Assets and Ways to Resolve Them,” Ismanov I.N. criticizes the practice of recording fixed assets at historical cost, arguing that it misrepresents their actual value. He proposes the introduction of a valuation system based on fair value [1]. In her article “Certain Conceptual Issues of Long-Term Assets,” Djumayeva G. points out that the national accounting system is not fully aligned with international standards, especially IAS 16 and IAS 36 [2]. Tashnazarov S.N., in his work “Ways to Improve Depreciation Policy,” emphasizes that depreciation of long-term assets is currently calculated using a uniform method, which does not align with the actual lifecycle of assets [3]. In the article “Improving the Accounting for Asset Impairment,” Shirinov U.A. and Turayeva F. discuss the subjective approaches used in identifying asset impairment and highlight the necessity of adapting to international best practices [4].

In “Pressing Issues in the Accounting of Intangible Assets,” Kholmatova M. discusses the difficulties of accounting for software and intellectual property due to ambiguous valuation criteria [5]. Rasulov B., in “The Necessity of Automating Long-Term Asset Accounting,” emphasizes the low capacity for real-time tracking

of asset movements and depreciation, which results in reduced audit accuracy [6]. Yusupov A., in his article "Problems in the Accounting of Lease Assets under IFRS 16," analyzes the incorrect implementation of international standards in accounting for lease-based assets [7]. In "Green Assets: Valuation Based on Environmental Criteria," Tursunova D. notes the absence of well-defined criteria for accounting environmentally efficient assets [8]. Karimov N., in "Digitalization of Asset Movement and Depreciation," demonstrates how the digitization of long-term asset monitoring can significantly enhance audit quality and reliability [9]. Finally, Saidova Z., in "Audit of Long-Term Assets: Methodological Approaches," reveals the lack of a unified methodology among auditors for evaluating long-term asset accounting practices [10].

The analysis of the above-reviewed academic literature demonstrates that the most commonly debated issues in the accounting of long-term assets are: the reliance on historical cost valuation, the uniform approach to depreciation, subjectivity in identifying impairment, and the complexity of accounting for intangible assets. Furthermore, methodological shortcomings in the accounting of lease-based assets have also been identified as critical issues.

However, these studies offer limited coverage of several emerging and essential areas: the integration of environmental criteria into asset accounting, the application of digital and artificial intelligence-based monitoring systems, and the development of rigorous methodological frameworks for auditing. Consequently, this article aims to address these gaps by proposing innovative solutions that adapt international best practices to the national context, enrich asset accounting with ecological and digital elements, and establish systematic audit standards for long-term assets.

RESEARCH METHODOLOGY

This study employs analytical and comparative approaches to identify the key challenges in the accounting of long-term assets and to explore potential solutions based on international best practices. A qualitative content analysis was conducted using a wide range of sources, including peer-reviewed academic articles, dissertations, and both national and international accounting standards—specifically IAS 16 (Property, Plant and Equipment), IAS 36 (Impairment of Assets), and IFRS 16 (Leases). These standards served as the theoretical foundation for evaluating the consistency and adequacy of current practices in Uzbekistan.

Through comparative analysis, Uzbekistan's accounting practices were systematically evaluated against those of advanced economies such as Germany, the United States, and Japan. This enabled the identification of structural differences, conceptual gaps, and opportunities for methodological improvement within the national framework. The comparative insights further informed the development of practical recommendations tailored to local institutional and regulatory contexts.

In addition, the study critically examined recurring issues highlighted in existing literature—such as valuation subjectivity, the rigidity of depreciation policies, and the complexity of intangible asset accounting. These problems were analyzed within a causal framework to better understand their underlying drivers and consequences. Particular attention was paid to the interdependencies between valuation accuracy, asset impairment recognition, and audit reliability.

The research was deliberately focused on key dimensions of long-term asset management, including valuation techniques, impairment assessments, accounting procedures, and auditing practices. Special emphasis was placed on integrating ecological criteria and digital technologies into these processes. As part of the methodological contribution, the study develops actionable proposals for adapting international approaches to the Uzbek context, thereby facilitating more transparent, efficient, and forward-looking accounting of long-term assets in alignment with global sustainability and digitalization trends.

ANALYSIS AND RESULTS

The findings of the study reveal that the accounting of long-term assets in Uzbekistan is characterized by a range of systemic and methodological shortcomings. Most notably, assets are typically valued based on their historical cost, which does not adequately reflect their current market or usage value. Depreciation policies are often applied uniformly using fixed annual methods, rather than being aligned with the actual life cycle and functional utility of the asset. Criteria and methods for identifying asset impairment are largely based on subjective judgments, undermining the reliability and transparency of financial statements.

Moreover, there is no unified methodological approach to the accounting of intangible assets, particularly in the case of intellectual property and software. The lack of digital systems capable of tracking asset movement, physical deterioration, and changes in market value in real time further complicates the audit process and limits oversight accuracy.

A review of international practices shows that leading economies—such as Germany, the United States, and Japan—implement more dynamic and integrated approaches to long-term asset accounting. For instance, asset values in these countries are updated periodically to reflect fair market value; depreciation schedules are adapted based on the asset's technical condition and economic usefulness. Furthermore, environmental criteria are incorporated through the "green asset" concept, enabling the classification and valuation of assets based on their environmental performance.

For example, under Japanese financial standards, assets with low energy efficiency are subject to separate valuation rules. In the United States, digital enterprise systems such as ERP (Enterprise Resource Planning) are employed for real-time monitoring of assets, thereby enhancing audit precision and reporting reliability. These practices offer valuable insights and serve as essential resources for addressing the methodological gaps in Uzbekistan's financial accounting system.

Based on this comparative analysis, it becomes evident that Uzbekistan's national accounting practice should move toward fair value-based asset measurement, adopt functional approaches to depreciation, and integrate both environmental and digital dimensions into the asset accounting framework.

The table below presents a comparative overview of the major problems observed in Uzbekistan's accounting practices for long-term assets, alongside corresponding solutions adopted in countries with advanced financial reporting systems. The examples focus on key areas such as valuation methods, depreciation policy, environmental integration, monitoring technologies, and automation levels—drawing on the experiences of Germany, Japan, the United States, France, and South Korea.

By illustrating the practical advantages of international approaches, the table underscores the need for Uzbekistan to close the existing gaps in financial accounting—especially by embracing tools that promote digitization, transparency, and sustainability within the national accounting infrastructure.

The analysis of global best practices demonstrates that adherence to financial reporting standards alone is not sufficient for the effective management of long-term assets. In today's international context, long-term asset accounting is increasingly enhanced by broader principles such as digitalization, environmental sustainability, and real-time monitoring. Therefore, Table 1 presents concrete examples from developed countries and major corporations that reflect these comprehensive approaches in practice. These cases not only showcase the operationalization of international standards but also provide evidence of their efficiency and value when properly implemented.

Table 1. Challenges in Long-Term Asset Accounting and Solutions Based on International Practice

Country / Company	Identified Problem	International Practical Solution
Germany (Siemens AG)	Assets are recorded at historical cost	Assets are adjusted to fair value based on annual revaluation (restatement) procedures
Japan (Toyota)	Environmental aspects are not reflected in accounting	"Green assets" are separately classified based on energy efficiency and CO_2 emissions
USA (Microsoft)	Depreciation policy lacks flexibility	Accelerated depreciation (double-declining balance) is applied based on asset functionality
France (TotalEnergies)	Physical wear and technical condition are not tracked in real time	AI-based diagnostic systems are integrated with "Asset Lifecycle Monitoring" to enable proactive valuation adjustments
South Korea (Samsung)	Low level of automation in asset tracking and accounting	SAP S/4HANA ERP platform enables real-time monitoring of asset movement, wear, and valuation updates

The table above highlights advanced approaches currently implemented in international financial accounting practices, supported by concrete examples. The experiences of companies from Germany, Japan, the United States, France, and South Korea provide effective solutions in areas such as asset valuation, depreciation strategies, integration of environmental criteria, real-time monitoring, and automation. These approaches illustrate a critical insight: the accounting of long-term assets should not be limited to financial metrics alone but must also incorporate technological and sustainability-related factors.

However, it is equally important to emphasize that international practices should not be adopted in a one-size-fits-all manner. Instead, thoughtful adaptation to local conditions is essential. The economic, organizational, and technological infrastructure of Uzbek enterprises differs significantly from that of multinational corporations. Therefore, the methodological focus of this article is to identify domestic challenges in long-term asset accounting and propose practical, context-sensitive solutions inspired by global best practices.

The following table (Table 2) has been constructed based on this adaptive approach. It centers on key issues observed in Uzbek enterprises and offers tailored solutions that are grounded in international experience but specifically adjusted to national realities. This framework supports the contextual understanding of accounting challenges and promotes the use of indigenous capacities in resolving them effectively and sustainably.

Table 2. Existing Problems in Uzbek Enterprises and Solutions Based on International Experience

Problem in Uzbek Practice	International Practical Solution (Country / Company)	Contextualized Recommendation for National Practice
Fixed assets are often recorded at historical cost, fair value is not considered	Germany – Siemens AG: approximation to fair value through annual revaluation (restatement)	Establish regular revaluation processes, introduce at least annual monitoring systems for asset valuation
Environmentally sensitive assets are classified as "ordinary" equipment; no green criteria	Japan – Toyota: assets are evaluated as "green" based on ecological efficiency and CO_2 emissions	Introduce dedicated reporting segments for green assets; integrate energy and CO_2 performance metrics into accounting practices
Depreciation policy is limited to straight-line method in most enterprises	USA – Microsoft: accelerated depreciation based on asset functionality and utility	Develop depreciation models aligned with asset life cycle; assess economic efficiency of selected methods
Asset condition, impairment, and physical wear are not monitored in real time	France – TotalEnergies: AI-based Asset Lifecycle Monitoring system evaluates asset deterioration and service lifespan	Implement ERP-integrated asset monitoring systems; introduce audit procedures for tracking technical depreciation
Asset accounting is not automated; depreciation calculations and recording are inefficient	South Korea – Samsung: full automation of asset movement using SAP S/4HANA ERP	Digitalize asset registry; consolidate financial and technical records using ERP platforms

The above table systematically outlines the current practical challenges encountered in the accounting of long-term assets within enterprises in Uzbekistan. It presents corresponding international best practices and context-specific recommendations adapted to the national environment. Specifically, issues such as recording assets solely at historical cost, insufficient integration of environmental criteria in accounting, the uniformity of depreciation policies, weak asset monitoring, and low levels of automation reflect some of the most pressing shortcomings in Uzbekistan's financial reporting practice.

In response to these challenges, the table proposes a set of solutions based on the experiences of Germany, the United States, Japan, France, and South Korea. These include fair value-based asset valuation, the incorporation of ecological factors into accounting frameworks, the development of life cycle-based depreciation policies, and the implementation of digital monitoring and ERP systems. These measures are expected to play a significant role in aligning the national accounting system with international standards and enhancing the accuracy, transparency, and reliability of financial reporting in Uzbekistan.

CONCLUSIONS AND RECOMMENDATIONS

The results of the study indicate that the key challenges in the accounting of long-term assets in Uzbek enterprises include: reliance on historical cost valuation, uniform and inflexible depreciation policies, complexity in accounting for intangible assets, insufficient incorporation of environmental factors, low levels of digitalization, and inefficiencies in audit procedures. These issues undermine the transparency of financial reporting, reduce the reliability of information available to investors, and result in a lack of sustainability-related indicators in corporate disclosures.

Based on the findings, the following recommendations are proposed:

Implement a fair value-based valuation approach to replace historical cost, ensuring asset values reflect current market conditions more accurately;

Introduce a "green assets" classification, incorporating criteria such as energy efficiency and environmental impact;

Align depreciation policies with asset life cycles, adopting a functional approach that reflects economic usefulness over time;

Develop real-time monitoring systems for tracking the technical condition and physical depreciation of long-term assets;

Adopt advanced ERP platforms (e.g., SAP, Oracle) to enable digital management of asset movement, depreciation, and impairment;

Develop national methodological guidelines for auditors to assess the accounting of long-term assets with a unified and standardized framework.

The implementation of these recommendations will contribute to the modernization of Uzbekistan's national accounting and audit systems, aligning them with international best practices. Furthermore, they will enhance the accuracy, reliability, and environmental-legal compliance of financial reporting, thereby strengthening stakeholder trust and supporting long-term economic sustainability.

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