ISSUES OF IMPROVING THE CORPORATE PERFORMANCE ASSESSMENT (KPI) INFORMATION SYSTEM IN UZBEKISTAN AND SOLUTIONS TO EMERGING PROBLEMS

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Abstract. *This article examines the development and improvement of information systems for evaluating the effectiveness (KPI) of corporate innovation systems in the context of Uzbekistan's economic modernization. The study highlights the importance of developing KPI indicators and their automation through information systems in managing innovation processes. The author analyzes the stages of monitoring the innovative activity of enterprises and provides practical recommendations for improving existing systems. Furthermore, the impact of implementing digital technologies in innovation management on economic efficiency is justified.*

Keywords: *Corporate innovation, KPI (Key Performance Indicators), information system, digitalization, innovation management, monitoring, economic efficiency, strategic development.*

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Introduction.

Today, in the process of modernization of the economy of Uzbekistan and transformation of state-owned enterprises, increasing management efficiency is a strategic task. The relevant decrees and resolutions of our President also emphasize the need to introduce modern corporate governance methods in business entities, including linking employee remuneration with their performance (KPI). However, in many local organizations, the KPI

system is still based on traditional, that is, "paperwork" or subjective approaches. This leads to non-transparency of information, complexity of calculations, and a high human factor. Therefore, the issue of introducing KPI information systems in the corporate system and eliminating existing problems is extremely urgent.

Problems and Improvement Issues of KPI Information Systems in the Corporate Sector of Uzbekistan

1. Theoretical and Methodological Foundations of KPI Information Systems

In the current era of economic modernization and the transformation of state-owned enterprises in Uzbekistan, improving corporate governance efficiency requires a seamless integration of information technology and modern management methodologies. A Key Performance Indicator (KPI) information system is a digital mechanism that measures the quantitative and qualitative achievement of a company's strategic goals. In the process of transforming state-participated enterprises, these systems serve as a primary tool for ensuring transparency and accountability.

The essence of a KPI system lies in decomposing the overall corporate strategy into specific tasks for each department and individual employee. In this process, the information system minimizes the human factor in data collection, processing, and analysis. In the context of Uzbekistan, the "Balanced Scorecard" (BSC) methodology by Robert Kaplan and David Norton is widely used to implement these systems. However, the unique characteristics of local management culture and corporate mentality necessitate a specialized approach to the architecture of these information systems.

2. Analysis of Systemic Problems in Implementing KPI Information Systems

An analysis of the practice of using KPI information systems in Uzbekistan's corporate structures reveals several serious challenges. First and

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foremost is the issue of data reliability and objectivity. In many cases, KPI systems are not integrated with other operational systems such as ERP, CRM, or accounting software. Consequently, indicators are entered into the system manually, which opens the door to human error or the intentional inflation of performance data. The second problem is the excessive number and complexity of indicators. In local enterprises, an individual employee may sometimes be assigned up to 15-20 different KPI metrics. From an information system perspective, this leads to system overload and a loss of strategic focus. Secondary indicators that lack strategic significance complicate the system's algorithms and reduce the accuracy of performance reports. The third significant issue is the lack of flexibility in current software. When market conditions shift or a company's strategic direction changes, the ability to rapidly update KPI indicators within the software is often limited. This creates a disconnect between the digital system and real-time business processes. Furthermore, the psychological barrier—where employees perceive these systems as tools for "control and punishment" rather than development—significantly hinders the system's overall effectiveness.

3. Priority Areas for Improving the Information System

To improve the KPI information system, its architecture must first be reconsidered. A modern approach should be based on the "Single Source of Truth" principle. This means the KPI system must automatically retrieve all operational and financial data from primary sources, such as electronic invoices or production sensors, without manual intervention. Another vital area for improvement is the implementation of Artificial Intelligence (AI) and Big Data technologies. The information system should not only calculate past results but also provide predictive analytics. For instance, if a sales representative has only met 30% of their target by mid-month, the system should automatically calculate the probable end-of-month result and issue a proactive alert. Furthermore, the user interface and visualization (Dashboards) require

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enhancement. For decision-making, executives need interactive panels that display the top 3–5 most critical indicators in real-time, rather than hundred-page reports. Implementing "Traffic Light" (red, yellow, green) indicators within the system is essential for the rapid identification of bottleneck areas.

4. Innovative Solutions to Emerging Problems

A comprehensive approach is required to resolve technical and structural issues within the KPI system. The chain of "KPI Methodology — Information System — Motivation" must be strengthened. The following solutions are proposed to address technical deficiencies:

Data Integration Solution: Establishing a unified Data Warehouse within the enterprise. All subsystems (accounting, HR, sales) should be seamlessly linked to the KPI system via API interfaces, reducing the human factor to zero. Optimization of Indicators: Applying the "80/20" (Pareto) principle within the system. This involves focusing on the 20% of indicators that drive 80% of the results. Using "Weighted Indicator" algorithms ensures a fair assessment of each KPI’s impact on the overall outcome.

Introduction of Mobile Technologies: Developing mobile application versions of the KPI system. This allows employees to track their performance daily, increasing self-management levels. When employees can transparently see how their bonuses are calculated, their trust in the system grows.

Cybersecurity and Data Protection: Given the confidentiality of corporate data, it is necessary to strengthen role-based access control and data encryption mechanisms to protect sensitive performance metrics.

5. Socio-Economic Impact and Future Prospects of the Enhanced System

The improvement of the KPI information system enhances not only the financial stability of the corporation but also its social environment. International experience proves that where digital evaluation is fair and transparent, labor productivity increases by an average of 15-25%.

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In Uzbekistan, the development of these systems will eventually align with "E-government" initiatives and cross-sectoral data exchange. The efficient operation of such systems in large joint-stock companies sends an important signal to foreign investors, demonstrating that corporate governance aligns with international standards such as ESG (Environmental, Social, and Governance).

In conclusion, improving the KPI information system is not merely a software update; it is the translation of a management philosophy into a digital language. By successfully implementing these systems, corporations in Uzbekistan can ensure their competitiveness in the global market and elevate internal management efficiency to a new level. In the future, cloud-based (SaaS) KPI platforms are expected to become popular among small and medium-sized businesses, contributing to increased labor productivity across the entire national economy.

International Experience in Improving Corporate KPI Information Systems

1. The United States: Strategic Flexibility and Predictive Analytics

The U.S. corporate sector (e.g., Google, Microsoft, Amazon) leads the world in integrating KPI systems with advanced technology. The American model is primarily built upon the Balanced Scorecard (BSC) framework, but it has evolved into a data-driven ecosystem.

Technological Integration: American companies utilize Artificial Intelligence and Machine Learning to shift from descriptive analytics (what happened) to Predictive Analytics (what will happen). Their information systems analyze vast amounts of "Big Data" to forecast future employee performance based on current trends.

Strategic Alignment: A key feature of the U.S. experience is the direct link between individual KPIs and shareholder value. Information systems are designed to show employees in real-time how their specific tasks influence the company’s stock price or overall market valuation.

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Lesson for Uzbekistan: The importance of moving beyond simple "after-the-fact" reporting toward predictive systems that allow for proactive management.

2. Germany: Precision, Quality, and ERP Integration

German corporate giants (e.g., Siemens, SAP, Volkswagen) emphasize the technical accuracy of processes and high-quality standards. Their KPI systems are deeply rooted in the Management by Objectives (MBO) philosophy. Software Architecture: In Germany, KPI modules are typically not standalone applications but are deeply integrated into Enterprise Resource Planning (ERP) systems like SAP. This allows for the automatic conversion of manufacturing data, quality metrics, and supply chain efficiency into performance indicators without human intervention. Unlike models that focus solely on quantity, the German system prioritizes "Process Health." Information systems are programmed to identify "bottlenecks" in production. If a KPI is missed, the system analyzes whether it was due to individual performance or a systemic technical failure. Lesson for Uzbekistan: Reducing human bias by automating data collection directly from production lines and integrating KPI modules into core accounting and resource systems.

3. Singapore: National Integration and Strategic Transparency

Singapore offers a unique model, particularly for state-owned enterprises (such as Temasek Holdings). It represents the gold standard for how a government can monitor corporate performance through digital integration. Unified Digital Ecosystem: Under the "Smart Nation" initiative, Singapore has developed integrated platforms where corporate KPIs are aligned with national economic goals. The information systems provide a high level of transparency, allowing for the real-time monitoring of state assets. Meritocratic Culture: The system is designed to be purely meritocratic. Information systems calculate bonuses and career progression automatically based on objective data, leaving almost no room for nepotism or subjective evaluation by supervisors.

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Lesson for Uzbekistan: For state-participated enterprises, creating a unified monitoring platform that aligns corporate performance with the country's broader economic development strategy.

Comparative Summary for Uzbekistan

By synthesizing these three global experiences, Uzbekistan can develop a "hybrid" model:

Adopting Predictive Analytics from the USA to foresee economic risks.

Implementing Technical Integration from Germany to ensure data objectivity and quality control.

Utilizing Strategic Oversight from Singapore to ensure that corporate growth contributes to national prosperity.

Drawing from international experiences—specifically the predictive capabilities of the USA, the technical precision of Germany, and the strategic transparency of Singapore—it is evident that a successful KPI system must be more than a reporting tool. It must serve as a strategic engine that aligns individual contributions with national economic goals. In Uzbekistan, overcoming the "human factor" through automated data acquisition is the most critical step toward ensuring that KPI systems foster a culture of meritocracy and sustainable growth.

Recommendations

Full System Integration (The "Unified Data" Approach) Enterprises should move away from standalone KPI software. Instead, the KPI system must be integrated with existing ERP (Enterprise Resource Planning) and CRM (Customer Relationship Management) platforms via API interfaces. This ensures that data flows automatically from production and sales into the performance dashboard, eliminating the possibility of manual manipulation. Implementation of the "Quality over Quantity" Principle Instead of overwhelming employees with numerous metrics, organizations should adopt the Pareto Principle (80/20). Information systems should focus on 3–5 high-

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impact Strategic KPIs. The software should allow for "Weighting," where critical strategic goals carry more statistical weight than routine operational tasks.

ADABIYOTLAR/LITERATURA/ LITERATURE:

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