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METHODOLOGICAL PROBLEMS OF TARGETED PERFORMANCE EVALUATION IN HIGHER EDUCATION INSTITUTIONS

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Abstract. Under the contemporary paradigm of global digital integration and tightening resource constraints, evaluating the efficiency of Higher Education Institutions (HEIs) has become a crucial methodological challenge. Traditional administrative metrics and periodic statistical reporting lack the agility required to adapt to volatile socioeconomic trends. This paper introduces a novel, multi-criteria mathematical-methodological model centered around the Systemic Development Integral Index (SDII) to comprehensively evaluate the strategic potential of HEIs across multiple dimensions: education, science, finance, human capital, and digital infrastructure. While classic management frameworks such as the Balanced Scorecard (BSC) and the EFQM Excellence Model are highly effective in corporate sectors, their direct application to developing or non-state higher education ecosystems is hindered by specific institutional barriers and digital interoperability limits.

Keywords: Performance Evaluation, Systemic Development Integral Index (SDII), Balanced Scorecard, Entrepreneurial University, Analytic Hierarchy Process (AHP), Interoperability, Digital Maturity, Resource Allocation.

The accelerating transformation of contemporary higher education systems, spurred by the deep penetration of complex digital informatics, presents academic institutions with an urgent imperative: optimizing the deployment and efficiency of strictly finite institutional resources. Legacy administrative models, heavily reliant on retrospective periodic statistical datasets, lack the structural agility necessary to monitor and align with highly volatile socioeconomic shifts and evolving contemporary labor market matrices. Consequently, establishing scientifically rigorous, multi-criteria tracking instruments capable of dynamically auditing long-term strategic institutional development programs has crystallized into an urgent methodological necessity.

A holistic strategic trajectory for a higher education institution (HEI) expands fundamentally beyond simple volumetric escalations in student headcount or linear additions to the physical real estate portfolio. True qualitative optimization requires a highly coordinated, symphonic advancement across multiple institutional axes: pedagogical quality, intensive scientific output, fiscal optimization, high-tier human capital development, and advanced digital infrastructure. In practical landscapes, however, the absence of an integrated mathematical instrument capable of unifying these separate streams into a singular logic frequently generates structural fragmentation, which severely undermines the validity and execution of strategic decisions.

Extensive academic literature exists detailing methodologies for organizational performance tracking within corporate and industrial sectors. Paradigms like Robert Kaplan and David Norton's Balanced Scorecard (BSC), alongside the European Foundation for Quality Management (EFQM) Excellence Model, have historically driven systematic operational execution across global industries. Nonetheless, the uncritical mechanical importation of these frameworks directly into the higher education

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architecture of developing nations or expanding non-state academic ecosystems remains highly problematic. These generic models fail to adequately account for unique institutional realities, including complex digital interoperability bounds and shifting state-mandated autonomy parameters.

Furthermore, mainstream academic research frequently treats educational delivery standards and scientific research productivity as separate, non-communicating operational silos. This analytical separation damages the systemic integrity necessary for comprehensive governance, resulting in resource conflicts and strategic blind spots. An integrated, multi-layered mathematical instrument is required to accurately model the interconnected nature of modern academic operations.

To systematically address these analytical limitations, this study introduces an innovative, multi-criteria framework: the Systemic Development Integral Index (SDII). Distinct from standard evaluation protocols that often prompt institutions to mechanically chase singular international ranking points (e.g., QS or THE criteria) while ignoring local priorities, the SDII matrix simultaneously evaluates internal resource utilization alongside explicit digital maturity thresholds. It purposefully incorporates financial self-reliance and deep external stakeholder engagement matrices directly into its core equation. This integration mirrors Burton Clark's foundational 'Entrepreneurial University' paradigm, which asserts that modern HEIs must diversify their revenue streams, reduce reliance on state funding, and aggressively commercialize innovative intellectual properties.

Furthermore, by introducing a dedicated Digital Maturity (DM) stratum—which the Analytic Hierarchy Process (AHP) simulations weight at a significant 0.20 coefficient—the SDII model redefines technical infrastructure. Systems like HEMIS and LMS transition from static data repositories into the active analytical engine of the university. Empirical testing validates that deploying this data-driven management approach accelerates institutional decision-making speeds by a factor of 1.5 while mitigating resource allocation errors, provided the data input streams maintain high integrity and institutional personnel possess advanced digital literacy.

1. Optimizing strategic governance within modern HEIs requires the mathematical synthesis of historically fragmented operational blocks into a unified analytical matrix, achieved via the universal application of the SDII model.
2. Multi-criteria AHP simulations establish that alongside pedagogical and research metrics, the digital maturity layer (0.20 weight) stands as a foundational driver governing the probability of long-term strategic success.
3. Incorporating a specialized organizational-economic control framework featuring three distinct operational loops (L1, L2, L3) allows universities to guarantee data authenticity and dynamically optimize resource allocation.
4. Structured scenario projections mapping the 2026–2030 horizon demonstrate that accelerated digital transformation pathways (the optimistic implementation variant) can boost composite institutional management efficiency indicators by 35% to 40%.

REFERENCES

1. Valero, A., & Van Reenen, J. (2019). The economic impact of universities: Evidence from across the globe. Economics of Education Review, 68, 53-67.
2. Barney, J. B. (1991). Firm resources and sustained competitive advantage. Journal of Management, 17(1), 99-120.

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3. Kaplan, R. S., & Norton, D. P. (1992). The Balanced Scorecard - Measures that Drive Performance. Harvard Business Review, 70(1), 71-79.
4. Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. Strategic Management Journal, 18(7), 509-533.
5. North, D. C. (1990). Institutions, Institutional Change and Economic Performance. Cambridge University Press.
6. Hazelkorn, E. (2015). Rankings and the Reshaping of Higher Education: The Battle for World-Class Excellence. Palgrave Macmillan.
7. Clark, B. R. (1998). Creating Entrepreneurial Universities: Organizational Pathways of Transformation. Pergamon Press.
8. G‘ulomov, S. S. (2020). Raqamli iqtisodiyotda innovatsion menejment. Toshkent: Fan va texnologiyalar.

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