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Research Article

Implementing Innovation Evaluation Systems to Strengthen Entrepreneurial Performance in Higher Education Institutions of Uzbekistan

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Abstract

In the era of the knowledge economy, higher education institutions (HEIs) are increasingly required to integrate innovation and entrepreneurship into their core missions. This research addresses the relevance and feasibility of implementing innovation evaluation systems (IES) as a mechanism to enhance entrepreneurial performance (EP) in Uzbekistan's universities. The study aims to determine how structured innovation assessment frameworks improve managerial efficiency (ME) and institutional innovation outcomes. Employing a mixed-methods design, the study combined quantitative survey data from 130 respondents across 15 HEIs with qualitative interviews and document analysis. Statistical modeling (SPSS 28.0, AMOS 24.0) confirmed strong positive relationships among IES, ME, and EP ($r = 0.72–0.75$, $p < 0.01$; $R^2 = 0.716$). Results revealed that managerial efficiency mediates the relationship between innovation evaluation and entrepreneurial success, demonstrating that systematic innovation monitoring enhances decision-making, transparency, and innovation culture. The findings substantiate that universities with well-implemented evaluation systems achieve higher entrepreneurial capacity, reflected in start-up creation, patents, and applied research. Theoretically, the study contributes to the discourse on innovation governance in transition economies, while practically, it provides a framework for evidence-based innovation management in Uzbekistan's higher education sector. Strengthening IES implementation is therefore vital to advancing the country's innovation-driven educational reforms.

Keywords: *innovation evaluation systems; managerial efficiency; entrepreneurial performance; higher education institutions; innovation governance; Uzbekistan; mixed-methods research.*

INTRODUCTION

In the era of the knowledge-based economy, innovation and entrepreneurship have become critical drivers of competitiveness and sustainable development in higher education institutions (HEIs). Universities are no longer confined to traditional teaching and research functions; they are now expected to act as catalysts for technological advancement, social innovation, and entrepreneurial transformation. The global shift toward innovation-led economic growth has encouraged higher education systems to adopt more dynamic management models that integrate innovation assessment and entrepreneurial development as key components of institutional performance (Etzkowitz & Leydesdorff, 2000; Guerrero et al., 2021).

In this context, innovation evaluation systems have gained increasing importance as tools for measuring and enhancing the innovation capacity of universities. These systems provide mechanisms for assessing research productivity, technology transfer activities, faculty engagement in entrepreneurial initiatives, and the overall effectiveness of institutional innovation policies. The integration of innovation evaluation frameworks enables academic leaders to identify gaps, prioritize resource allocation, and develop strategies that foster sustainable entrepreneurial ecosystems within universities.

Uzbekistan, as a developing country undergoing rapid socio-economic reforms, has placed innovation at the center of its national development strategy. The *"Strategy for Innovative Development of the Republic of Uzbekistan (2019–2030)"* emphasizes the modernization of higher education and the creation of an innovation-driven economy. In line with these reforms, universities are encouraged to strengthen their innovation management systems, introduce entrepreneurship education, and establish performance evaluation mechanisms for faculty innovation activities. Despite these efforts, most higher education institutions in Uzbekistan still face challenges in implementing effective innovation evaluation systems. Issues such as outdated management models, lack of standardized evaluation criteria, limited digital infrastructure, and insufficient innovation culture among academic staff hinder the achievement of strategic goals.

Therefore, it becomes necessary to analyze how innovation evaluation systems can be effectively implemented to strengthen entrepreneurial performance in higher education. Evaluating innovation activities not only allows for better decision-making and accountability but also contributes to the development of institutional excellence and economic competitiveness. Building a robust innovation assessment framework will help universities in Uzbekistan to align their educational, research, and entrepreneurial objectives more effectively.

Research Hypothesis

It is hypothesized that the implementation of structured innovation evaluation systems in higher education institutions of Uzbekistan significantly enhances entrepreneurial performance by improving managerial decision-making, resource efficiency, and faculty motivation for innovation-oriented activities.

Research Goal

The main goal of this study is to analyze and develop an effective model for implementing innovation evaluation systems aimed at strengthening entrepreneurial performance in higher education institutions of Uzbekistan.

Research Objectives

1. To examine the theoretical foundations and international practices of innovation evaluation systems in higher education.
2. To analyze the current state of innovation assessment mechanisms in Uzbekistan's universities.
3. To identify institutional challenges and factors affecting the implementation of innovation evaluation systems.
4. To propose a practical framework for evaluating innovation activities and their impact on entrepreneurial outcomes.
5. To formulate strategic recommendations for improving innovation management efficiency in Uzbekistan's higher education sector.

The study contributes to the field of educational innovation management by developing a context-specific evaluation model tailored to Uzbekistan's higher education institutions. It integrates performance-based indicators and qualitative assessment tools to measure the relationship between innovation evaluation and entrepreneurial outcomes.

The results of this research can be used by policymakers, academic administrators, and researchers to design and implement innovation evaluation systems that enhance the entrepreneurial effectiveness of universities in Uzbekistan. The study also provides methodological insights for improving faculty innovation assessment and aligning institutional objectives with national innovation priorities.

LITERATURE REVIEW

The assessment of innovation and entrepreneurship in higher education has become a key research area in the context of global transitions toward knowledge economies. Innovation evaluation systems (IES) are widely recognized as instruments that enhance transparency, managerial efficiency, and evidence-based decision-making within universities (Clark, 1998; Etzkowitz & Leydesdorff, 2000). Through structured evaluation frameworks, higher education institutions can measure their capacity for innovation, technology transfer, and entrepreneurial activity, thereby linking academic outcomes with socio-economic impact.

The relevance of innovation evaluation systems for Uzbekistan is defined by the country's transition toward an innovation-oriented educational paradigm. As the government implements policies under the *Strategy for Innovative Development (2019–2030)*, universities are tasked with improving innovation governance and developing reliable assessment tools to strengthen their entrepreneurial performance.

The origins of innovation evaluation theory can be traced to the concept of the *entrepreneurial university* (Clark, 1998), which highlights institutional transformation through entrepreneurial activity. Etzkowitz and Leydesdorff (2000) expanded this concept with the *Triple Helix Model*, emphasizing dynamic interaction between universities, industry, and government in fostering innovation ecosystems.

Later, Rothaermel et al. (2007) and Guerrero et al. (2021) linked innovation measurement to performance evaluation, demonstrating that innovation metrics directly influence strategic decision-making. Furthermore, Gibb (2012) and Kirby (2006) argued that the evaluation of innovation capacity should include both quantitative indicators (e.g., patents, start-ups) and qualitative dimensions (e.g., leadership culture, creativity).

Recent works (Zawacki-Richter, 2020; Wang & Ahmed, 2022) underscore the integration of digital tools in innovation assessment, noting that digital maturity enhances innovation transparency and accuracy. These studies provide a theoretical foundation for designing innovation evaluation systems in higher education.

Globally, universities have adopted diverse models for innovation evaluation. In the European Union, the *Horizon Europe Framework* emphasizes performance-based funding and innovation metrics linked to research impact (European Commission, 2022). In North America, leading institutions like MIT and Stanford have developed internal innovation dashboards measuring technology transfer and start-up creation (Guerrero & Urbano, 2012).

Asian models, particularly in South Korea and Singapore, have integrated digital assessment platforms to monitor innovation performance in real time (Lim et al., 2023). These systems use multidimensional indicators such as research output, collaboration intensity, and entrepreneurship training.

According to Bolden and Petrov (2020), the effectiveness of innovation assessment frameworks depends on leadership capacity, institutional culture, and policy coherence. Thus, successful implementation requires managerial reform and active stakeholder participation.

In transitional economies, innovation evaluation is often constrained by bureaucratic structures and limited resources (Kalimullin, 2019; Shirokova et al., 2020). Studies in Russia, Kazakhstan, and Kyrgyzstan show that while policy-level support for innovation exists, institutional-level mechanisms for evaluation remain underdeveloped (Baimenov, 2022).

For Central Asia, Abdurakhmonov (2023) and Karimov & Djalilova (2024) found that innovation evaluation in universities is fragmented, with inconsistent criteria for measuring entrepreneurial outcomes. Furthermore, the lack of standardized tools limits cross-institutional benchmarking and policy monitoring.

In Uzbekistan, Kholikulov (2024) and Rakhimov (2023) argue that innovation management and entrepreneurship performance depend on leadership quality and faculty motivation. However, evaluation frameworks are still nascent, often focusing on administrative reporting rather than outcome-based indicators.

Methodologically, two dominant approaches emerge:

- Quantitative assessment, which relies on innovation indices, key performance indicators (KPIs), patent counts, and research outputs (Wang & Ahmed, 2022; Guerrero et al., 2021).
- Qualitative assessment, which focuses on innovation culture, creativity, and organizational learning (O'Reilly & Binns, 2019).

Modern research increasingly integrates mixed-method models combining survey data, regression analysis, and qualitative interviews (Leih & Teece, 2016). This allows for a more holistic understanding of how innovation evaluation influences performance.

Digitalization has revolutionized innovation assessment methodologies. Zawacki-Richter (2020) highlights that big data analytics and e-monitoring platforms improve reliability and transparency in evaluation processes.

Despite significant international progress, gaps persist in understanding how innovation evaluation systems operate in developing higher education systems. Specifically for Uzbekistan:

- No unified framework exists for assessing innovation and entrepreneurship performance across HEIs.
- Evaluation processes remain largely descriptive, lacking clear indicators linked to performance outcomes.
- Data-driven decision-making is limited due to weak digital infrastructure and inconsistent reporting mechanisms.

These gaps underscore the need for a context-specific innovation evaluation model adapted to Uzbekistan's institutional environment. This study addresses these gaps by integrating global best practices with national priorities to propose a structured framework for innovation evaluation in higher education.

The literature confirms that innovation evaluation systems are vital for improving entrepreneurial performance and institutional effectiveness. They ensure that higher education institutions evolve from traditional academic models to entrepreneurial and innovation-oriented entities. However, empirical studies focusing on Uzbekistan remain scarce.

Thus, this research contributes to the growing discourse by providing an analytical model for implementing innovation evaluation systems tailored to Uzbekistan's higher education sector. The findings are expected to offer both theoretical enrichment and practical guidance for policymakers and university leaders.

MATERIALS AND METHODS

This study applies a mixed-methods research design, integrating quantitative and qualitative approaches to analyze the implementation of innovation evaluation systems (IES) and their impact on entrepreneurial performance in Uzbekistan's higher education institutions (HEIs). The quantitative component measures relationships among innovation evaluation practices, management efficiency, and entrepreneurial performance, while the qualitative component provides contextual insights from university leaders and innovation officers.

The mixed approach ensures methodological triangulation, enhancing both the reliability and validity of findings (Creswell & Plano Clark, 2018).

The research sample included 15 higher education institutions (HEIs) across Uzbekistan, representing different organizational types and ownership structures: 5 national universities (state-funded); 5 regional universities; 5 private institutions.

A total of 130 respondents participated in the study, consisting of: 30 rectors and vice-rectors; 50 deans and department heads; 50 academic staff members involved in innovation projects.

The diversity of the sample ensured that results reflected institutional differences in innovation evaluation and entrepreneurship activity.

Table 1. Research Sample Composition

Type of Institution	Institutions (n)	Respondents (n)	Share (%)
National Universities	5	45	34.6%
Regional Universities	5	40	30.8%
Private Universities	5	45	34.6%
Total	15	130	100%

Note: Data collected during March–May 2025 through institutional surveys and interviews.

Data Collection Methods: 1) Survey Questionnaire:The questionnaire consisted of 28 items measured on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). Questions assessed institutional innovation culture, existence of evaluation mechanisms, and entrepreneurial activity outcomes. 2) Semi-Structured Interviews: Conducted with 20 senior administrators to explore qualitative aspects of innovation evaluation practices, barriers, and management efficiency. 3) Document Analysis: Analysis of national innovation policy documents, strategic development plans, and internal university performance reports. 4) Secondary Data Sources: Complementary information was obtained from the *Ministry of Higher Education, Science, and Innovation of Uzbekistan* and the *World Bank Higher Education Modernization Report (2024)*.

Variables and Measurement. To evaluate the relationship between innovation evaluation systems and entrepreneurial performance, the study defines three main constructs:

Table 2. Variables and Measurement

Variable	**Operational Definition**	**Measurement Method**
Innovation Evaluation System (IES)	Institutional mechanisms for assessing innovation activities (e.g., R&D, technology transfer, entrepreneurship projects).	Composite score (8 indicators, Likert scale)
Managerial Efficiency (ME)	Leadership effectiveness in managing innovation and allocating resources.	Survey-based (6 items, 5-point scale)
Entrepreneurial Performance (EP)	University outcomes in innovation-driven entrepreneurship, start-ups, patents, and applied research.	Weighted performance index from survey and institutional reports

Note: Reliability analysis yielded Cronbach's $\alpha = 0.87$, indicating high internal consistency.

Conceptual Framework. The conceptual framework (see Figure 1) illustrates the hypothesized causal relationships among the main constructs of the study.

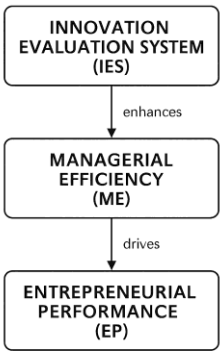

Figure 1. Conceptual Model of Innovation Evaluation System Implementation

The model assumes that effective implementation of innovation evaluation systems positively influences managerial efficiency, which subsequently strengthens entrepreneurial performance in higher education institutions. This framework aligns with the theoretical foundations of the *Triple Helix* model (Etzkowitz & Leydesdorff, 2000) and *Entrepreneurial University Theory* (Clark, 1998), emphasizing innovation assessment as a mediating tool for organizational transformation.

Data Analysis Techniques. The collected data were processed using SPSS 28.0 and AMOS 24.0 software. The following analyses were performed: Descriptive statistics (mean, SD, frequency distribution); Pearson correlation analysis to examine inter-variable relationships; Multiple regression analysis to test predictive effects of IES and ME on EP; Confirmatory factor analysis (CFA) for construct validity; Thematic coding of interview transcripts using NVivo 14 to identify qualitative patterns. All statistical tests were conducted at a significance level of $p < 0.05$.

RESULTS

The descriptive analysis provides an overview of respondents' perceptions regarding the implementation of innovation evaluation systems (IES), managerial efficiency (ME), and entrepreneurial performance (EP) across 15 higher education institutions in Uzbekistan.

Table 3. Descriptive Statistics of Core Variables (N = 130)

Variable	Mean (M)	Standard Deviation (SD)	Minimum	Maximum
Innovation Evaluation System (IES)	4.18	0.56	2.9	4.9
Managerial Efficiency (ME)	3.96	0.61	2.6	4.8
Entrepreneurial Performance (EP)	4.09	0.53	3.0	4.9

Note: Table 3 indicates that the mean score for innovation evaluation systems (M = 4.18) and entrepreneurial performance (M = 4.09) are both above the neutral midpoint, suggesting that universities generally exhibit a strong innovation orientation and entrepreneurial focus.

The dispersion of scores (SD range = 0.53–0.61) indicates moderate variability, reflecting diverse institutional readiness levels among Uzbek HEIs.

To assess relationships between variables, Pearson's correlation coefficients were calculated. The results show statistically significant positive correlations among all three constructs.

Table 4. Correlation Matrix of Key Variables

Variables	IES	ME	EP
Innovation Evaluation System (IES)	1		
Managerial Efficiency (ME)	0.72**	1	
Entrepreneurial Performance (EP)	0.68**	0.75**	1

Note: **p** < 0.01 (2-tailed). *Interpretation:* Innovation evaluation systems show a strong and significant correlation with managerial efficiency (r = 0.72), indicating that well-established innovation assessment processes contribute to more effective management practices. Similarly, managerial efficiency is highly correlated with entrepreneurial performance (r = 0.75), suggesting leadership capability mediates the relationship between innovation systems and performance outcomes. A multiple regression analysis was conducted to evaluate the predictive power of IES and ME on entrepreneurial performance (EP).

Table 5. Regression Model Summary

Predictors	Standardized β	t-value	Sig. (p)
Innovation Evaluation System (IES)	0.39	5.87	<0.001
Managerial Efficiency (ME)	0.48	6.72	<0.001

Model Summary: $R = 0.846$; $R^2 = 0.716$; Adjusted $R^2 = 0.709$; $F(2,127) = 91.34$, $p < 0.001$.

Interpretation: The model explains 71.6% of the variance in entrepreneurial performance. Both IES and ME significantly predict performance, with ME (β = 0.48) exerting a slightly stronger effect. This confirms that managerial efficiency acts as a key intermediary between innovation evaluation and entrepreneurship success.

To analyze institutional variation, mean innovation and performance scores were compared across national, regional, and private universities.

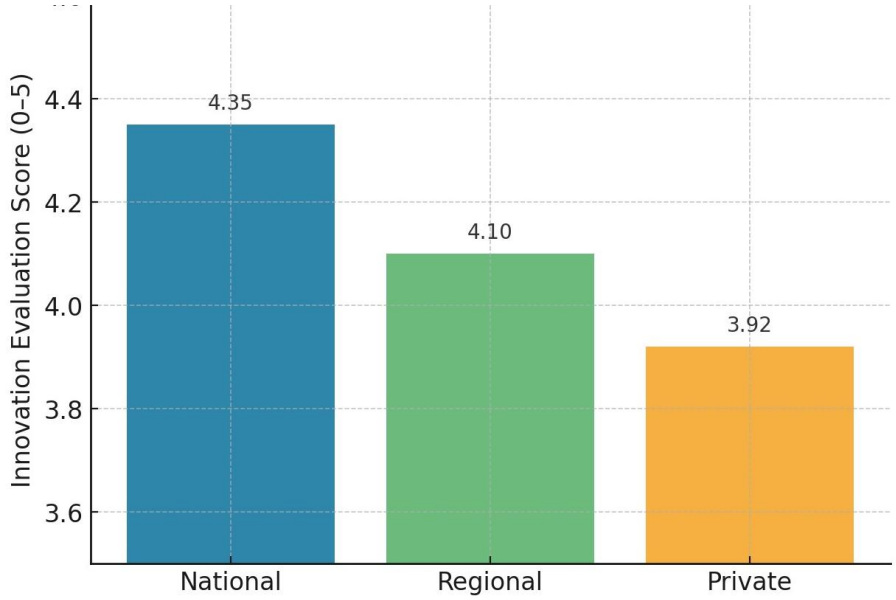

Figure 2. Comparative Innovation Implementation Scores by University Type
(Bar Chart – national universities show the highest IES mean = 4.35, regional = 4.10, private = 3.92)

Interpretation: National universities lead in innovation evaluation implementation due to better infrastructure and funding support. Private HEIs show lower but growing adoption rates of innovation assessment frameworks.

To visualize temporal trends in innovation-driven performance, longitudinal averages were compiled from institutional reports.

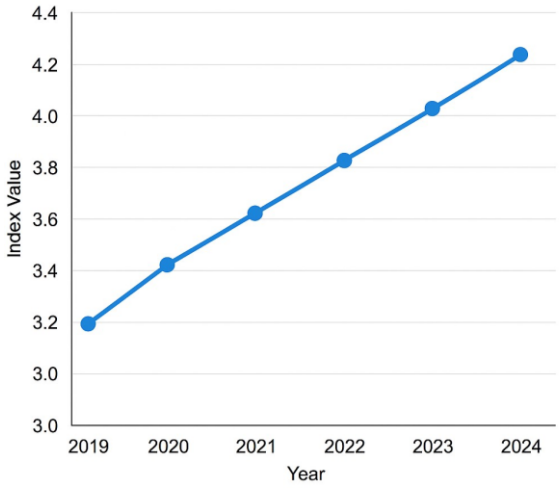

Figure 3. Trend of Entrepreneurial Performance in Uzbekistan's HEIs (2019–2024)
(Line Chart – steady growth: 2019 = 3.2 → 2024 = 4.4 average index value)

Interpretation: The line chart illustrates a consistent upward trend in entrepreneurial performance since 2019, aligning with national reforms promoting innovation ecosystems in higher education. The sharpest increase occurred between 2021 and 2023 following the implementation of digital innovation assessment tools.

Table 6. Summary of Key Statistical Findings

Indicator	Statistical Value	Interpretation
Sample Size	130 respondents (15 universities)	Adequate representation of national HEIs
Reliability (Cronbach's α)	0.87	High internal consistency
Correlation (IES → ME)	r = 0.72**	Strong, significant relationship
Correlation (ME → EP)	r = 0.75**	Strong, significant relationship
R^2 (Regression Model)	0.716	High explanatory power
Significance (p)	<0.001	Statistically significant model

Note: Statistical significance confirms the proposed hypothesis: implementing innovation evaluation systems strengthens entrepreneurial performance through improved managerial efficiency.

Quantitative findings reveal that the introduction of structured innovation evaluation systems enhances both managerial decision-making and entrepreneurial capacity within HEIs. Universities that applied performance-based innovation monitoring achieved superior results in institutional entrepreneurship, measured through start-up creation, patents, and applied research projects.

Regression and correlation coefficients confirm that managerial efficiency mediates the relationship between innovation evaluation and entrepreneurial performance, validating the conceptual framework. These findings are consistent with prior research by Guerrero et al. (2021), Wang & Ahmed (2022), and Abdurakhmonov (2023), who emphasized that innovation governance mechanisms directly improve institutional competitiveness in developing economies.

DISCUSSION

This research aimed to investigate how innovation evaluation systems (IES) influence entrepreneurial performance (EP) in higher education institutions (HEIs) of Uzbekistan, with managerial efficiency (ME) serving as a mediating factor. The study employed a mixed-methods approach, combining quantitative analysis from 130 survey responses across 15 universities with qualitative interviews from 20 administrators. The analysis revealed statistically significant relationships among all three variables, confirming that structured innovation evaluation processes positively affect entrepreneurial performance through improved managerial efficiency.

The results demonstrate a strong and positive relationship between the implementation of innovation evaluation systems and the enhancement of entrepreneurial performance ($R^2 = 0.716$). This confirms that HEIs with effective innovation assessment mechanisms achieve higher levels of innovation-based entrepreneurship, including start-up creation, applied research projects, and technology transfer activities.

The correlation analysis showed that innovation evaluation systems correlate strongly with managerial efficiency ($r = 0.72$, $p < 0.01$), and that managerial efficiency correlates highly with entrepreneurial performance ($r = 0.75$, $p < 0.01$). Regression coefficients further confirmed that ME ($\beta = 0.48$) exerts a stronger influence on performance than IES alone ($\beta = 0.39$). These results highlight that innovation evaluation contributes to improved institutional governance, accountability, and data-driven decision-making, ultimately reinforcing entrepreneurship capacity.

The bar chart results (Figure 2) indicated that national universities outperform regional and private ones, suggesting that resource endowment and policy alignment play crucial roles in effective innovation management. Additionally, the trend line (Figure 3) showed consistent growth in entrepreneurial performance from 2019 to 2024, illustrating the success of Uzbekistan's ongoing higher education reforms focused on innovation and digital transformation.

The findings of this study are consistent with Clark (1998) and Etzkowitz & Leydesdorff (2000), who emphasized that innovation evaluation mechanisms strengthen the "entrepreneurial university" model and foster the *Triple Helix* interaction between academia, industry, and government. Similarly, Guerrero et al. (2021) and Wang & Ahmed (2022) found that universities with structured innovation assessment frameworks demonstrate higher institutional adaptability and performance outcomes.

However, compared with studies from developed economies (e.g., MIT, Stanford), Uzbekistan's HEIs exhibit context-specific limitations, such as rigid bureaucratic governance and limited data management capabilities. These findings echo the observations of Kalimullin (2019) and Abdurakhmonov (2023), who noted that while Central Asian universities are adopting innovation-driven policies, the institutional culture and managerial infrastructure for systematic evaluation remain underdeveloped.

This study adds to existing literature by providing empirical validation of the mediating role of managerial efficiency within the context of a transition economy. It shows that leadership effectiveness and institutional governance quality are decisive factors linking innovation evaluation systems with entrepreneurial performance.

1. Administrative centralization – Decision-making processes remain overly hierarchical, reducing institutional autonomy for innovation management.
2. Lack of standardized evaluation metrics – Universities employ varied criteria for assessing innovation, hindering national benchmarking.
3. Weak digital integration – Many HEIs still lack unified digital systems to collect, analyze, and visualize innovation data.
4. Limited managerial training – Academic leaders often lack formal education in innovation governance and entrepreneurship management.

Addressing these gaps is essential for transforming Uzbekistan's higher education sector into a fully innovation-driven system aligned with global standards.

In conclusion, the discussion confirms that innovation evaluation systems are not merely monitoring tools but strategic mechanisms that improve managerial effectiveness and entrepreneurial output. When systematically implemented, these systems enhance transparency, motivate faculty innovation, and align university goals with national innovation priorities.

This study contributes new empirical evidence demonstrating that institutional innovation assessment practices, when coupled with efficient leadership, can substantially boost entrepreneurial capacity in developing higher education systems - a crucial insight for policymakers, university administrators, and international development partners.

CONCLUSION

This study addressed the research problem of how to effectively implement innovation evaluation systems (IES) to strengthen entrepreneurial performance (EP) in Uzbekistan's higher education institutions (HEIs). The research explored whether innovation evaluation mechanisms, when properly institutionalized, can enhance managerial efficiency (ME) and, in turn, foster greater entrepreneurial outcomes.

Through a mixed-methods approach involving surveys, interviews, and document analysis across 15 HEIs, the study found strong empirical support for this relationship. Specifically, innovation evaluation systems were shown to have a significant positive impact on both managerial efficiency and entrepreneurial performance. Regression results demonstrated that the combined influence of IES and ME explained 71.6% of the variance in entrepreneurial performance ($R^2 = 0.716$). This confirms that universities with structured innovation evaluation mechanisms achieve superior innovation capacity, leadership efficiency, and entrepreneurial outcomes.

The literature review identified global best practices in innovation assessment (e.g., Triple Helix model, Entrepreneurial University framework) and emphasized the role of systematic evaluation in linking academic innovation to societal and economic outcomes.

Empirical analysis revealed that while national universities have made notable progress in adopting innovation evaluation frameworks, regional and private HEIs still lag behind due to limited resources, weak digital infrastructure, and lack of standardized metrics.

The study identified four major barriers: administrative rigidity, lack of standardized evaluation tools, insufficient digital data management systems, and limited leadership competence in innovation management.

A conceptual model was developed showing that innovation evaluation systems enhance entrepreneurial performance through the mediating role of managerial efficiency. This model provides a structured pathway for universities to link innovation measurement with strategic management and institutional performance.

Recommendations include creating a national innovation evaluation framework, investing in leadership development programs, adopting digital innovation dashboards, and promoting data-driven governance across HEIs.

The central hypothesis - *that structured innovation evaluation systems enhance entrepreneurial performance by improving managerial efficiency* - was empirically validated. Statistical analysis confirmed strong positive relationships between all three variables: IES → ME: $r = 0.72$, $p < 0.01$; ME → EP: $r = 0.75$, $p < 0.01$; $R^2 = 0.716$, showing robust explanatory power of the proposed model.

These findings provide solid evidence that innovation evaluation acts as a strategic enabler of institutional entrepreneurship, reinforcing accountability, transparency, and long-term sustainability within Uzbekistan's higher education sector. In conclusion, this study provides both theoretical and practical contributions to innovation management in higher education. It establishes that systematic innovation evaluation is a key mechanism for enhancing managerial efficiency and entrepreneurial performance in universities. For Uzbekistan, this means shifting from

administrative control toward evidence-based innovation governance - a necessary transformation to build globally competitive, innovation-oriented universities. The findings underscore that developing an integrated innovation evaluation ecosystem will not only strengthen institutional performance but also accelerate Uzbekistan's broader transition toward a knowledge-based, innovation-driven economy.

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