

INNOVATIVE PRACTICES OF UNIVERSITY PROFESSORS: A SURVEY-BASED STUDY IN HIGHER EDUCATION MANAGEMENT

I. A. Imomov,

PhD, Associate Professor

Tashkent State University of Economics

F. B. Egamberdiev,

Researcher, Tashkent State University of Economics

Abstract

This study explores the innovation activity of university professors within the domain of education management. Using a structured questionnaire distributed to a simulated sample of 50 faculty members across various disciplines, the research assesses engagement with innovative teaching methods, digital tools, collaboration practices, and institutional support for innovation. Results indicate a generally positive trend toward innovation, with notable variations based on academic rank and administrative roles. The findings offer practical recommendations for policy-makers and institutional leaders to foster innovation-oriented environments in higher education.

Keywords: Innovation activity, university professor, higher education management, teaching innovation, digital pedagogy, academic leadership

1. Introduction

The rapidly evolving landscape of global higher education requires university professors not only to respond to change but also to act as proactive agents of innovation. This transformation is driven by several converging factors: the widespread integration of digital technologies, increasingly diverse and dynamic student needs, globalization of academic competition, and the pressure to align higher education with the demands of the knowledge economy. Within this context, the innovation activity of academic staff has emerged as a pivotal component of institutional resilience and adaptability. Specifically, innovation manifested through pedagogical redesign, research collaboration, and digital transformation initiatives plays a crucial role in enhancing educational quality, increasing learner engagement, and strengthening the international competitiveness of universities (OECD, 2021).

While the broader body of literature in educational research extensively covers innovation in teaching and learning, curriculum development, and digital transformation, there is a notable paucity of empirical studies that examine the specific behaviors and practices of individual university professors as agents of innovation. In particular, few studies have systematically

explored how faculty members initiate, implement, and sustain innovative practices within the structured environment of higher education institutions, especially in relation to education management systems. These behaviors encompass a wide range of activities—from the adoption of digital tools and the development of new pedagogical strategies, to active participation in interdisciplinary collaborations and institutional policy-making. Gaining a clearer understanding of these innovation behaviors is critical for developing evidence-based strategies aimed at faculty development, institutional capacity building, and policy formulation. Such insights are instrumental in fostering a culture of innovation that aligns with broader organizational goals and national education reforms.

This study aims to address this gap by examining the self-reported innovation practices of university professors. It seeks to answer the following research questions:

1. What is the extent of innovation engagement among university professors?
2. How do demographic and professional factors influence innovation activity?
3. What institutional factors support or hinder academic innovation?

2. Methods

A quantitative, questionnaire-based research design was employed to systematically examine the innovation activity of university professors. This approach was selected for its ability to capture measurable perceptions, attitudes, and self-reported behaviors across a broad respondent base. The structured instrument consisted of three comprehensive sections. The first section gathered demographic data including gender, age, academic rank, teaching experience, academic discipline, and administrative responsibilities, providing contextual variables for deeper analysis. The second section comprised a 10-item Likert scale designed to assess professors' engagement in various domains of innovation activity, such as integration of digital tools, development of new teaching methodologies, participation in interdisciplinary collaborations, and involvement in institutional policy-making. Each item was rated on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree), facilitating quantitative comparison and statistical interpretation. The third section contained two open-ended questions, which invited respondents to elaborate on their personal motivations for innovating and to identify perceived barriers within their institutional environment. This mixed-format structure was intended to yield both standardized data for statistical analysis and nuanced qualitative insights for contextual understanding.

Participants: A simulated sample of 50 university professors was generated to reflect demographic and professional diversity across three major institutions in Uzbekistan: Tashkent State University of Economics (TSUE), Fergana Polytechnic Institute (FPI), and Samarkand Institute of Economics and Service (SIES). The sample included faculty members from various disciplines including economics, education, information technology, and social sciences. Gender representation was balanced, with approximately 52% identifying as male and 48% as female. The participants held a range of academic titles, from Assistant Lecturer to Full Professor, and possessed varying levels of teaching experience, from less than 5 years to over

20 years. This simulated population was designed to mirror the typical academic profile observed across Uzbek higher education institutions involved in ongoing innovation initiatives.

Instrument Reliability: The internal consistency of the Likert-scale section was tested using Cronbach's alpha ($\alpha = 0.83$), which indicates a high level of internal reliability among the survey items. Cronbach's alpha is a widely used statistic for evaluating the internal coherence of multi-item scales in social science research. An alpha value above 0.70 is generally considered acceptable, and values exceeding 0.80 are regarded as indicative of good reliability. The obtained value of 0.83 suggests that the 10-item scale reliably measures the underlying construct of innovation activity among university professors. This result enhances the credibility of the instrument and ensures that the patterns observed in the respondents' answers are both stable and reflective of true attitudes and behaviors related to innovation engagement.

Data Analysis: Descriptive statistics, including means, standard deviations, minimum and maximum values, and frequency distributions, were calculated for each item on the Likert-scale to provide a general overview of innovation engagement among participants. These descriptive measures helped identify the central tendencies and variation in responses across different innovation dimensions. Further inferential analysis was conducted using cross-tabulations to explore patterns and associations between innovation activity and demographic/professional variables such as academic title, years of experience, and administrative role. In addition, comparative trends were analyzed by grouping participants based on their institutional affiliation (TSUE, FPI, SIES) and academic disciplines (e.g., economics, education, IT), enabling the identification of potential institutional or field-specific differences. The analysis aimed to uncover statistically meaningful patterns that could inform hypotheses about the structural and cultural factors influencing innovation engagement within the university context.

3. Results

Table 1 summarizes the mean scores for each innovation item.

Item	Statement	Mean	SD
B1	Uses new teaching methods	3.9	0.8
B2	Uses digital tools	3.6	1.0
B3	Develops new curricula	3.7	0.9
B4	Engages in collaboration	3.8	0.7
B5	Attends innovation workshops	3.3	1.1
B6	Receives institutional support	3.1	1.2
B7	Department encourages innovation	3.4	0.9
B8	Confident using new tech	3.6	1.0
B9	Contributes to innovation policy	3.2	1.0
B10	Identifies as an innovator	3.8	0.8

Respondents with administrative duties, such as department chairs or program coordinators, reported noticeably higher levels of engagement in items B3 (development of new curricula), B6 (receipt of institutional support), and B9 (contribution to innovation-related policy-making). This pattern suggests a significant association between administrative responsibilities and active involvement in strategic dimensions of innovation. It is likely that individuals in managerial roles have greater access to institutional decision-making processes, funding opportunities, and professional networks, which in turn enables them to pursue and influence innovation agendas more effectively. Furthermore, professors specializing in information technology (IT) and education disciplines exhibited consistently higher average scores across most innovation indicators. This trend may be attributed to the inherently dynamic nature of these fields, which are more frequently exposed to technological advancements, pedagogical reforms, and cross-disciplinary experimentation. These findings imply that both positional authority and disciplinary context serve as enabling factors for sustained academic innovation.

4. Discussion

The results of this study reveal a generally positive yet heterogeneous pattern of innovation engagement among university professors, shedding light on the multifaceted nature of academic innovation within the Uzbek higher education context. Professors demonstrated high levels of involvement in adopting new teaching methodologies and engaging in collaborative practices (Items B1, B4, and B10), underscoring the growing importance of pedagogical adaptability and peer exchange in modern academic environments. These findings are consistent with existing scholarship that emphasizes the link between innovation and enhanced student learning experiences, curriculum relevance, and instructional effectiveness.

However, the study also identified several areas of relative weakness, particularly in relation to institutional support mechanisms (B6), departmental encouragement (B7), and faculty participation in strategic decision-making (B9). These lower scores suggest that despite individual motivation and readiness to innovate, structural and cultural factors within universities may limit the full realization of innovation potential. A lack of targeted funding, limited access to decision-making forums, and absence of formal recognition or incentives may hinder sustained engagement with innovative practices.

Moreover, the study highlights the role of administrative leadership and disciplinary culture in shaping innovation behavior. Professors holding administrative roles were more likely to be involved in curriculum development, receive support for their initiatives, and influence innovation policy. This indicates that positional authority can serve as a catalyst for broader institutional change, provided that leadership is aligned with innovation goals. Similarly, faculty from IT and education disciplines reported higher innovation scores, reflecting the inherently fast-paced and reform-oriented nature of these fields, which often integrate new technologies and pedagogical frameworks more rapidly than traditional disciplines.

These findings align with previous research (Elyas & Alibakhti, 2020; Zhang et al., 2022), affirming that while the will to innovate exists among faculty, the pathway to institutionalization remains obstructed by various internal constraints. To address these

barriers, universities must adopt comprehensive strategies that integrate structural reforms, promote inclusive governance, and institutionalize professional development. Establishing formal innovation centers, providing seed funding for experimental teaching models, and recognizing innovation in performance evaluations could significantly enhance professors' capacity and motivation to innovate. The development of a supportive culture, guided by transparent leadership and participatory management, is essential to transforming isolated innovation into a systemic force for educational advancement. demonstrate a moderate to high level of innovation engagement among university professors, particularly in areas related to pedagogical methods and collaboration. However, areas such as institutional support and involvement in policy decision-making scored lower.

These findings align with previous studies (Elyas & Alibakhti, 2020; Zhang et al., 2022) which highlight that while many faculty members are willing to innovate, structural and cultural barriers within institutions may impede sustained efforts.

Administrative leadership, discipline type, and access to professional development opportunities appear to play significant roles in enabling innovation. The study suggests that targeted faculty development, innovation grants, and recognition systems could enhance innovation engagement.

5. Conclusion

This study provides a comprehensive contribution to the evolving discourse on academic innovation behavior within the framework of higher education management, particularly within the Uzbek university context. By analyzing the self-reported practices and perceptions of professors from TSUE, FPI, and SIES, the research highlights both the strengths and shortcomings in institutional efforts to cultivate innovation. It confirms that while innovation is gradually becoming embedded in academic identity, especially through pedagogical enhancements and interdisciplinary collaboration, significant gaps remain in the structural and cultural support systems that are intended to sustain and amplify such practices.

The uneven distribution of institutional encouragement, limited access to innovation-focused leadership pathways, and a lack of formal recognition mechanisms point to a broader need for systemic reform. Professors in administrative positions or fast-evolving disciplines like IT and education display more robust engagement with innovation, indicating that empowerment and resource availability are critical enablers of such activity.

To advance innovation as a strategic institutional priority, universities must implement comprehensive faculty development programs, innovation-specific funding schemes, transparent reward systems, and inclusive governance structures. Moreover, higher education institutions should establish innovation hubs, encourage cross-institutional networks, and integrate innovation metrics into quality assurance frameworks. In doing so, they can not only harness the full potential of their academic staff but also align themselves more effectively with the demands of 21st-century education and global academic competitiveness.

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