

REVIEW
of the Official Opponent
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**for Fu Yanjun dissertation on the topic «Management of innovative processes
in higher education institutions», applied for the degree of Doctor of
Philosophy from the field of knowledge 07 – Management and administration
in the major 073 – Management**

Relevance of the topic of the dissertation.

The transition to new educational standards and integration into the global educational space, has actualized the issue of managing innovative processes in higher education institutions. Innovativeness, as the ability to renew and openness to the new, has been considered by pedagogical science and management as a leading characteristic not only of a scientific and pedagogical worker but also of a manager.

In modern conditions, the management of higher education institutions is the main systemic factor of innovative changes in educational institutions, as providing conditions for innovative activity, developing human potential, and planning educational changes depend entirely on the leader. Therefore, the orientation of higher education institution management in general and management systems for pedagogical innovations, in particular, determines both the development of individual educational institutions and the quality of higher education as a whole.

The management of innovative processes in higher education institutions is viewed by modern researchers as part of management activity, in which the purposeful and organized activity of the institution's collective for increasing its educational potential, improving the level of its utilization, and consequently obtaining qualitatively new educational results is ensured through planning, organization, leadership, and control of the processes of development and assimilation of innovation. Accordingly, the preparation and implementation of innovations involve the skillful use of the methodology of a systemic approach, the wide application of methods of systemic analysis, formal and informal methods of researching the effectiveness of managing such processes.

The practice of managing innovation activity shows that even the highest result under certain conditions is not an indicator of its effectiveness. Ignoring the target and value aspect of such changes leads to formalism in the results of innovation activity. Therefore, the goal, means of managerial influence, functional composition, organizational structures, technologies, and approaches that determine the nature of planning innovations, their organization, management, and control play a significant role in successful innovation management. Particularly important in these processes is the strategy of managing innovation activity, which determines the vector of development of the innovation infrastructure, ensures the priorities of innovation activity, promotes the development of an innovative climate in higher education institutions. In this regard, consistency, predictability, and systematicity are essential indicators of change quality.

Therefore, these arguments determine the relevance and timeliness of Fu Yanjun dissertation «Management of innovative processes in higher education institutions».

Connection of works with scientific programs, plans, topics.

The dissertation was conducted within the framework of the following project №0121U108135 «Formation of a management mechanism for innovative development of a higher education institution», where the author investigated the evaluation system of physical culture and sports management in colleges and universities; №0119U001336 «Development of management in the conditions of international integration processes» in which the author investigated the main trends and evaluated the foreign experience of managing physical education in colleges and universities.

Scientific novelty of the obtained results.

Based on theoretical research, questionnaire survey and mathematical statistical analysis, this dissertation puts forward scientific practice and systematic suggestions for the development of management of innovative processes in higher education institutions.

The scientific results are reliable and can be presented as follows in terms of their scientific essence:

- at first was developed an innovative application of marketing theory based on the 4I principle of Internet marketing to the study of the university library knowledge service. It was proposed by creating a micromedia platform, which aims to provide a basis for the library to develop a marketing plan for the knowledge service. It also plays an important role in the development and modernization of the

librarianship, which, in turn, will contribute to the development and modernization of information services of higher education institutions and, in the final case, will ensure the provision of quality educational services.

Were improved:

- an artificial intelligence-based innovation management system for higher education institutions by changing the basic theory of artificial intelligence, focusing on the research of theories, methods, tools and systems related to artificial intelligence and focusing on first-class talents and high-level think tanks in key fields innovations of artificial intelligence, strengthening of international academic exchange and cooperation of higher education institutions;

- regulation of the university authorities, which has to go through two stages: the administrative management of innovative processes leads to an increase in administrative efficiency and success. The management of innovation processes focuses on 4 aspects: compliance with rules, specialization, impersonal management and hierarchical control, which ensures the efficiency of the organization of internal administrative processes and is the basis for improving the university administration for the effective management of higher education institutions;

- the credit risk management system of private institutions of higher education by recognizing the targeted nature of the use of credit funds and the quasi-community of educational services aimed at improving the work of private educational institutions and the quality of teaching, consists of five levels: management environment, risk estimation, management activities, information and communication and internal development and is able to provide an effective mechanism for reducing a high degree of risk, which in the future will contribute to the economic growth of the territories in the future.

Has been further development:

- theoretical principles of creating an effective management system for innovative processes in higher education institutions, which are based on the main theories of management and provide for their synergistic influence due to considering the size of the educational institution, the distribution of subjects and disciplines, the formation of an organizational system with effective control and coordination at lower levels in order to realize differences between the needs of human capital and the dynamism of the development of economic systems for the development of educational institutions and society as a whole;

- substantiation of approaches to state support for the management of innovative processes in institutions of higher education, which is based on the

strategy of creating «world-class» universities in China and, unlike existing approaches, eliminates the imbalance of regional economic development and stimulates the creation of an effective management mechanism for the use of state investment funds based on set of evaluation indices: investment in education, infrastructure investment, scientific research, investment in innovation and additional investment in education for the long-term development of educational institutions and is based on the use of the Tobit regression model;

- methodological approaches to the construction of an effectively functioning system of evaluation of research projects with an innovative focus in higher education institutions based on the use of the Delphi expert evaluation method by selecting 6 indicators of the first level and 20 indicators of the second level, among which the educational technologies occupy the largest share, scientific research achievements are in second place, and educational technologies are in third place.

Scientific and practical significance.

The scientific significance of the research results consists in the solution of important scientific and applied research on the management of innovation processes in higher education institutions. The practical significance of the results obtained in the dissertation consists in the applied use of the proposed set of methodological principles and applied suggestions during managing innovation processes in higher education institutions. Proposals regarding the organization of management of innovative processes were presented in the activities of the Sumy National Agrarian University.

The practical and theoretical recommendations were reported at the following conferences: International Scientific-Practical Conference «Financial and economic development of Ukraine in the conditions of transformational transformations» (March 28, 2019, Lviv), International Scientific-Practical Conference «Sustainable development of the national economy: current problems and mechanisms of support» (April 26, 2019, Kryvyi Rih), International Scientific-Practical Conference «Management of the 21st century: globalization challenges» (April 23-24, 2019, Poltava), International Scientific-Practical Conference «Innovations of partnership interaction of education, economy and social protection in conditions of inclusion and pragmatic rehabilitation of society» (April 19-20, 2019, Kamianets-Podilskyi), Innovation Management and information Technology impact on Global Economy in the Era of Pandemic (37th International Business Information Management Association (IBIMA), 30-31 May 2021, Cordoba, Spain), SNAU International Conference (Sumy, Ukraine, 2019-2021).

Completeness of presentation of the dissertation materials in scientific publications

The main results of scientific research were published in 12 scientific articles, including 2 articles were published in a scientific specialist publication in the Scopus/WoS database, and 2 articles were published in specialized publications of Ukraine. The number of publications is sufficient to present the thesis for defense.

Scientific publications meet the requirements of clauses 8, 9 of the Procedure for awarding the degree of Doctor of Philosophy and canceling the decision of the one-time specialized academic council of a higher education institution, scientific institution on awarding the degree of Doctor of Philosophy (Decree of the Cabinet of Ministers of Ukraine dated January 12, 2022, No. 44). Acquaintance and detailed analysis of the presented scientific works makes it possible to assert that the elements of scientific novelty, on which the dissertation is positioned, are fully explained in the articles and theses of the reports. The content of the publications, the characteristics of the publications in which they are placed meet the requirements for the publication of the scientific provisions of the dissertation work. Of the scientific works published in co-authorship, only the author's work was used in the dissertation, as indicated in the list of publications. Thus, there are reasons to claim that the dissertation research contains the author's scientific vision regarding the achievement of the set goal and the solution of the specified scientific and applied task.

The degree of validity of scientific statements

The scientific presentation of the content of the dissertation is determined by the combination of the purpose, tasks, scientific novelty and conclusions. The presented dissertation research is a logical, structured and complete scientific work. The orderliness of the stages of work and the systematicity of the research process made it possible to solve the scientific and applied tasks regarding the management of innovative processes in higher education institutions.

The purpose of the study is the substantiate theoretical and methodological principles develop practical suggestions for the management of innovative processes of higher education institutions, and comprehensively expound the proposition that the management system of higher education institutions must be innovative.

The purpose and tasks of the research were achieved by the author using a system of general scientific and special methods. With the help of economics, management, pedagogy, law, and other disciplines, using the method of normative research, the internal management reform of colleges and universities is theoretically

analyzed, and the theoretical research framework is built. Graphical and tabular methods were used for visual presentation of the obtained results. Scientific works of foreign scientists on economic theory, systems theory, management, management and administration, change management, project approach, current legislation and regulatory acts became the information base of the research.

In terms of content, structure and design, the dissertation fully meets the requirements of the Ministry of Education and Science of Ukraine. The work is written in English, which does not contradict Article 22 of the Law of Ukraine «On Ensuring the Functioning of the Ukrainian Language as a State Language».

The structure and content of the dissertation

This paper meets the established requirements. This paper is a complete and complete scientific work. His manuscript contains a complete set of structural elements corresponding to the established requirements: abstract, introduction, three parts, conclusions, list of sources used, appendix. The total workload is 202 pages. The main body of paper contains 36 tables, 10 figures and 187 sources. The paper enriches the logical scheme, structured tables and graphical interpretation, allowing a comprehensive understanding of the research conducted as a detailed and broad scientific work.

The abstract fully reflects the structure of the paper, reveals the scientific achievements and conclusions obtained, as well as the structure and orderly logic of the research.

In the first chapter «*Theoretical and methodological basis management of innovative processes in higher education institutions*» the issue is discussed the innovation direction of the university management system, the evolution of scientific development concept on the innovative nature of the university management system and modern theories of management of innovative processes in higher education institutions..

In the second chapter «*Analysis of the current state of management of innovative processes in a higher educational institution*» the issue of the peculiarities of state financial support for the development and management of innovative activities of educational institutions, modeling of the success of the development of educational institutions, the marketing and promotion of intellectual services based on the micromedia model as a component of innovative processes in higher education institution.

The third section «*Future trends of innovative processes in a higher educational institution*» considers the issue of the strategy of using artificial

intelligence as a basis for introducing innovations in the management and development of a higher educational institution, risk management of credit projects in a higher educational institution, and innovations in the management of human resources of higher educational institutions based on the Delphi method.

In general, this dissertation is complete and novel, with a valuable scientific proposition with a theoretical and applied nature, and applies practical suggestions to the management of innovative processes in higher education institutions.

Remarks and wishes for the content.

Assessing the generally high level of development of theoretical, methodological and methodical provisions, practical recommendations, the validity of scientific conclusions and proposals, attention should be paid to certain shortcomings and discussion points presented in the dissertation, including:

1. Considering the issues of modern theories of managing innovative processes in higher education institutions in chapter 1.3 of the dissertation, the author proposes a hierarchical-logical model of managing higher education institutions (p. 61). It needs to be more detailed justification of why exactly the proposed factors are able to improve the efficiency of the management system in higher education institutions.

2. Considering the issue of state financial support for the development and management of innovative activities of higher education institutions, taking into account regional peculiarities, the author proposes four hypotheses H1-H4 (pages 74-75). Further detailed justification is required to explain the selection of these hypotheses and how regional peculiarities of state financial support for higher education institutions are taken into account in them.

3. The suggestions of the dissertation regarding the innovative development of library affairs in higher education institutions deserve attention. For instance, in chapter 2.3, the author proposes to base it on the 4I marketing principle (page 104) and utilize micromedia platforms. It is quite logical to raise questions regarding the effectiveness and financial provision of implementing these platforms as part of the development strategy for university libraries.

4. Supporting the ideas of introducing the artificial intelligence into the management of innovative processes in Chinese higher education institutions, as outlined in Chapter 3.1 of the dissertation (pp. 117-136), it is deemed appropriate to also address potential risks associated with both the direct implementation of artificial intelligence and the consequences of this process.

5. Alternative sources of funding for Chinese higher education institutions are proposed by the author, emphasizing that educational institutions are classified as high-risk organizations (pp. 149-152). Therefore, a more detailed justification is needed for the implementation of the proposed risk management system, which includes five levels (management environment, risk assessment, management activities, information and communication, and internal development), which will reduce the level of credit risk of higher education institutions in China.

These comments and suggestions do not reduce the overall assessment of the conducted research and may be used as recommendations for further research in this important direction.

Correspondence of the dissertation to the major and profile of the council.

Dissertation of **Fu Yanjun** on the topic «**Management of innovative processes in higher education institutions**», which was submitted for defense to the specialized academic council for obtaining the degree of Doctor of Philosophy in the field of knowledge – 07 Management and administration, major – 073 Management according to its relevance, scientific-theoretical level, main results of justification, main provisions and results published in professional publications, novelty of the production and practical significance, it meets the requirements of the order of the Ministry of Education and Science of Ukraine №40 from 12.01.2017 «On approval of requirements for the preparation of a dissertation» and Resolution of the Cabinet of Ministers of Ukraine dated from 12.01.2022 №44 «On approval of the Procedure for awarding the degree of Doctor of Philosophy and the cancellation of the decision of the one-time specialized academic council of a higher education, scientific institution on awarding the degree of Doctor of Philosophy» with changes introduced in accordance with Resolution of the Cabinet of Ministers №341 21.03.2022. The content of the dissertation correspondence to the passport of the major.

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