REVIEW
of the official reviewer for a PhD dissertation
on the theme "Evaluation of high-tech project success in the Republic of Kazakhstan based on international standards of project management"
by Kozhakhmetova Assel Kosherbayevna
submitted for the award of degree of doctor of philosophy (PhD)
specialty "6D051800 -Project management"

1. The relevance of the research topic.

The research work focuses on the evaluation of the success of high-tech projects in the context of the Republic of Kazakhstan. The research methodology for the assessment of the project success is based on globally and widely used project management (PM) standards. The following points are noted to emphasize the relevance of the research topic.

First, the successful implementation of high-tech projects can be considered as a potential driver for innovative development. One of the important directions of the state policy is to increase competitiveness in the geopolitical space of Kazakhstan by developing the competitive high-tech industry. In this regard, it is worth noting that the concept of creating high-tech projects is one of the main stages of the transition to an innovative economy.

Second, the success of high-tech projects can serve as a driving force for the social and economic prosperity. The sectors of the Kazakh economy that implement high-tech projects are the key sectors which ensure sustainability of the socio-economic system. This is achieved through the widespread introduction of leading technologies and creation of products with a high intellectual value to the market.

Third, an increasing interest of Kazakhstan in the digitalization of its economy calls for the need to introduce high-tech, knowledge-intensive and green technologies. This has been noted by several state programs and strategies. For example, according to the goal of such strategies Kazakhstan should become a platform for the development of the latest digital technologies and open for technological partnerships. Therefore, it is worthwhile to note that the success of projects in the high-tech industry ensured through introduction of the PM standards may contribute in achieving the above objectives.

Overall, the research topic is relevant from both scientific and practical points of view, from the position of value for the Kazakhstani PM body of knowledge, and has its foundational place in contributing to the theoretical knowledge base in Kazakhstan.

2. Correspondence of the dissertation topic to the priority areas of science development and / or state programs that are implemented in the Republic of Kazakhstan.

The dissertation work is dedicated to investigation and evaluation of the high-tech project success level in the Republic of Kazakhstan by using international PM

standards. The Project Management Institute's PM Body of Knowledge (PMBoK) has been chosen as the base for the research methodology. The author methodologically formulated the goal and objectives of the study, gave a comprehensive analysis of the literature and background on the issue. This allowed the author to conduct the research in accordance with the planned goal and to come to conclusions that provide extremely relevant information useful in priority areas of science development like PM, innovation management, knowledge-intensive economy etc.

Moreover, the topic of the dissertation work corresponds to the basic political documents such as: "About the approval of the Concept of Industrial-Innovative Development of Kazakhstan for 2015-2019 years" dated December 31, 2013, the State Program "Digital Kazakhstan" approved by the Decree of the Government of the Republic of Kazakhstan dated December 12, 2017, and "Kazakhstan-2050 Strategy: A new political course of a successful rate".

3. The degree of validity and reliability of the research results (scientific provisions).

The dissertation work of Assel Kozhakhmetova consists of novel and scientifically sound results. The author has identified the validity and reliability of the research results in the dissertation work by:

1. A theoretical and methodological basis of the dissertation research, combining approaches of the PM methodology; explaining the conceptual apparatus of high-tech projects; methods and criteria for assessing the success of high-tech projects; conditions for the application of the PM processes in accordance with the PMBOK standard; modeling the relationship between the PM processes and high-tech project success.

2. Attracting a range of sources, including official documents on the statistics of domestic projects and organizations; official documents of government departments; analytical reports of international organizations; statements, speeches, and proceedings of officials representing local and international organizations.

3. Using data from a quantitative study, the reliability of which was tested by the Cronbach Alpha test, conducted among the project managers of domestic high-tech projects.

4. Testing the results and conclusions of the study in three high-tech projects implemented at the International Information Technology University and Nanotechnology Laboratory of the Republic of Kazakhstan.

4. The degree of novelty of each scientific result (scientific provisions).

The scientific results obtained during the study have a certain degree of novelty and can be evaluated as follows:

The first result - partly new. The definition of high-tech projects was considered by foreign authors from the viewpoint of such projects' types. At the same time, the author of the dissertation highlights such attributes of high-tech

projects as the level of knowledge intensiveness and uncertainty, scope, time and other resources that are new approaches for domestic researches.

The second result - partly new. The classification of high-tech projects was considered by several foreign authors. But the novelty of the author's classification obtained by an approach that differentiates high-tech projects in according to industry type, containing 9 groups, and the level of knowledge intensiveness.

The third results - new. Due to conducting a quantitative assessment of the success of high-tech projects in the Republic of Kazakhstan. The assessment is based on the proposed economic-mathematical model for the first time.

The fourth result - new. Regression analysis of the relationship between the success of high-tech projects in the Republic of Kazakhstan and the PM processes in accordance with the PMBOK standard was conducted for the first time.

The fifth result - new. The novelty of the result is explained by the author's recommendations for improving the management of high-tech project success in the Republic of Kazakhstan that has never been suggested before.

5. The practical and theoretical significance of the research results.

The theoretical conclusions obtained during the study will contribute to the development of a holistic concept for managing high-tech projects in the Republic of Kazakhstan. It may also serve the purpose to contribute to creation of a knowledge-based economy. Also, the research findings may advance understanding and enriching the science of PM and innovation management in the country.

The research results as well as scientific and practical recommendations can be taken used when implementing, developing and improving strategies, programs, concepts and development plans of the Ministry of National Economy of the Republic of Kazakhstan and the Ministry of Digital Development, Innovation and Aerospace Industry of the Republic of Kazakhstan.

6. Comments and suggestions on the dissertation.

The reviewer points the following comments and suggestions on this dissertation work:

1. The scope of the research seems very wide. The author has covered a broad research topic and, therefore, has performed extensive work, while it seems was enough to concentrate on a narrower concept, for example, one specific industry or group of projects.

2. In the dissertation work, it would be preferable to depict the research design and process with more details. For example, the methodology part could be provided with a clear outline (processes, algorithms or steps) which would help other researchers in the field to be able to repeat similar research but in other allied topics.

3. The study is rich in descriptive statistics and data. The available data and results obtained from this descriptive analytics could be used to perform more of inferential statistics. This is a suggestion to the author for future research.

However, it is noted, that these comments are not fundamental and do not reduce the scientific and practical significance of the results introduced above.

7. Compliance with the content of the dissertation in the framework of the requirements of the Rules for awarding academic degrees.

The reviewer believes that the dissertation work of Assel Kozhakhmetova entitled "Evaluation of high-tech project success in the Republic of Kazakhstan based on international standards of project management" is a completed research work, which contains a number of new provisions and practically significant results. The dissertation, in its relevance, the scientific novelty, and the volume of research performed, seems fully comply with the requirements set forth to award the associated academic degree.

Based on the abovementioned review, I believe, that Assel Kozhakhmetova is eligible for the defense of her dissertation with subsequent consideration for granting of the degree of Doctor of Philosophy (PhD) in the "6D051800 - Project management" specialty.

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Департамент кадровой работы