

**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 high-tech industry is one of the most perspective and promising areas for all countries that can boost innovation in tourism, services, branding, and products. Moreover, high-tech is core component of innovative development of enterprises. Hence, the implementation of successful high-tech projects may open new horizons for entrepreneurs, industries and entire economies.

Successful development of high-tech projects may ensure innovative entrepreneurship in the Republic of Kazakhstan that may strengthen the country's position in the ranking of the world's most competitive countries.

Technology implementation may solve significant problems at a higher level. Technology drives industrialization that affects the economy at individual, organization, sector, and global levels.

Successful implementation of high-tech projects will help to solve important problems in achieving the goals of the local strategies and programs. For example, one of the goals of the State “Digital Kazakhstan” program adopted for 2018-2022 called the “Digital Existing Economy”. This goal based on the use of a pragmatic start consisting of specific high-tech projects in the field of digital and technological restructuring.

The Republic of Kazakhstan has high potential and opportunities for the development of high-tech projects and the increase in its contribution to the national economy. But lack of knowledge and high-qualified human resources make it difficult to achieve project success. In addition, high-tech projects that implemented in the field of complex technical systems can't be well-structured by common methods due to the fact that they knowledge-intensive, have high technical risks and unpredictable results.

Thus, how to provide successful and advanced high-tech products, services, and systems is a focal issue nowadays. Therefore, it is very important to develop a methodology of project management in the high-tech project success management direction, study foreign experience and adapt it to the conditions of the domestic market. In addition, studies have not yet been conducted on the topic of managing the success of high-tech projects in the Republic of Kazakhstan.

Generally, research in the field of high-tech project success management in the Republic of Kazakhstan is a relevant and highly significant for dissertation research.

**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 includes all required elements of PhD dissertation such as theoretical part, including an extensive review, analytical part with quantitative and qualitative analysis, final part with practical recommendations that contribute to project management development.

The dissertation work corresponds to the basic strategies, programs and documents such as: “Development Strategy of the Republic of Kazakhstan until 2050 approved by Decree of the President of the Republic of Kazakhstan in 2012”, “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, “Kazakhstan-2050 Strategy: a new political course of a successful rate”.

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

The validity and reliability of research results in the dissertation work obtained by the author are identified by:

1. Listed sources, including official documents of government departments; analytical reports of local and international organizations; proceedings of officials representing international structures and statistics. Using data from a quantitative study, the reliability of which was tested by the Cronbach Alpha test, conducted among the supervisors of domestic high-tech projects.

2. Cronbach Alpha test for checking the validity and reliability of the collected data from project supervisors. Testing results show a high level of validity of quantitative research data.

3. Approbation of the results of the study in real high-tech projects implemented in the sphere green energy, nanotechnology and IT.

### **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 author of the dissertation focuses on the features of high-tech projects such as knowledge-intensiveness, resource dependence. Common features of high-tech projects groups were considered as acceptable for highlighting in the suggested definition.

The second result - partly new. The classification of high-tech projects was considered by several foreign authors. The novelty of suggested classification focuses on classifying high-tech projects according to industry type and science-intensiveness.

The third results - new. A quantitative assessment of high-tech project success in the Republic of Kazakhstan based on the developed economic-mathematical model for the first time.

The fourth result - new. An analysis of the relationship between the success of high-tech projects in the Republic of Kazakhstan and project management 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.

Thus, most results of the dissertation work are new, since they were not previously comprehensively investigated in the works of domestic researchers.

### **5. The practical and theoretical significance of research results**

Conclusions and suggestions of this study may be useful for stakeholders of the innovation system of the Republic of Kazakhstan. Additional information on key elements and critical success processes of the high-tech projects can be used by domestic market participants, in particular, project managers.

The materials contained in the research work can also be used in the following disciplines: "Project Management", "Management of Innovative Projects", "Innovation Management".

### **6. Comments and suggestions on the dissertation**

The content of the thesis includes the following comments and suggestions:

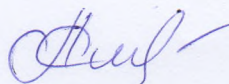
1. In the dissertation work, not enough attention is paid for searching and analyzing legislative acts, concerning high-tech project. It is necessary to conduct an analysis of legislative acts in order to identify ambiguities in the interpretation of regulations regarding the definition of a high-tech project.

2. In the second section of dissertation work devoted to the analysis and evaluation of success of a high-tech project in the republic of Kazakhstan, the cost, the number of patents and certificates received, the proportion of advanced technologies should be considered in calculating the evaluation of the success of a high-tech project in the context of industry.

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

Dissertation work of Assel Kozhakhmetova titled "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 fully complies with the requirements of the rules for awarding the degree of Doctor of Philosophy (PhD) in the "6D051800 - Project management" specialty.

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**Zhuparova A.S.**

**РАСТАЙМЫН**  
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даярлау және аттестаттау басқармасының басшысы  
**ЗАВЕРЯЮ**  
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