

Managers' Competency Criteria Relationship by Project Success Factors in the Airport Construction infrastructures

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ABSTRACT

This research paper has been conducted with the aim of identifying the relationship between competency criteria of airport construction industry managers and project success criteria. The research method is exploratory and in this regard, the descriptive method of correlation has been followed. The statistical population consists of managers with experience in major Iranian construction projects in the airport construction industry. The sample size was 230 according to Morgan sampling table. Data collection tools were semi-structured interviews of managers and project success questionnaire. The data analysis method was to use the indicators of Kaiser Meyer, Elkin tests, as well as factor analysis and correlation tests. Data analysis and analysis showed that managers' competency criteria increased from the number of thirty initial proposals to 36 after credit from the sample group. The project's success criteria were reduced from the original 52 proposed cases to 38 after validation from the sample group. The success criteria of the project adapted to the local conditions were identified after factor analysis and their list was reflected in the results of the article. Thus, two types of localized tools were obtained separately to measure the competence of the management and the success of the project. The correlation test performed showed that there was a relationship between each of the competency factors of managers and the success factors of the project.

KEYWORDS

Manager Competence, Project Success, Environmental Competency, Technical Competency, Behavioral Competency

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1. Introduction

One of the key issues in achieving sustainable development is to pay attention to the infrastructure of a country. Among these, the airport construction industry is one of the most effective and vital issues in this field. Therefore, the successful implementation of the airport projects is decisive. If a set of factors can be shown to be effective in success rate and that the suitability of the project manager is considered as one of these factors influencing significantly the project success, the project-related organizations will be better able, knowing these factors, to effectively address the challenges facing the project and they will make better decision and planning in the successful implementation of the project. The findings show that there is a positive relationship between the competencies of managers and the project success factors [1-4].

2. Methodology

This study has been done by descriptive survey method. Since identifying the criteria of managers' competence and project success required referring to information resources. In this regard, two methods have been used. In the first stage, referred to the published resources and these resources have been identified and extracted, and in the second stage to experienced managers in Airport construction was consulted to validate the identified criteria. Since in this study, the identification of localization criteria in the success of the project has been discussed, experienced managers have made significant contributions by adapting the criteria to the climatic-socio-cultural requirements of the airport construction industry.

Experienced managers with experience in building of airport development projects in Iran have formed the statistical population of the present study. The number of these managers was 550, of which 230 were selected as the sample group, according to Morgan's sampling table. The selection of individuals to participate in the polls was considered as an available sample to the extent of saturation.

Therefore, the data collection method can be considered as a combination of library and field methods in which library receipts and interview tools and questionnaires have been used. The interview form was designed for managers in a semi-structured manner. Because they can remove and add to the listed management criteria and prioritize them, a questionnaire was used to measure the data of project success criteria.

Its localization required the revision and localization of localized criteria. For this reason, the designed

questionnaire was provided to experienced managers so that they could comment on localized criteria while determining their priority.

Validity and reliability of data collection tools has gone through its validation process as follows. First, the tools were provided to 50 experts to comment on the proposed criteria in terms of form and content and in accordance with the realities of the airport construction industry. In the next stage, these tools were implemented in a group of 230 people, and their data were operated through a computer. The implementation of factor analysis test for managers' competency criteria as well as project success criteria determined the validity of each factor and also the elimination of some of them that lacked the necessary factor load, the durability and validity of each of them. In another phase of this statistical test, Cronbach's alpha coefficients were calculated for the questionnaire scales. Achieving coefficients above 0.8 indicates the existence of reliability or stability of measurement in these scales and research tools.

Since the data resulting from the implementation of research tools were quantifiable, first descriptive statistics indicators were used to analyze them. Structural equation tests are then used to determine the normality of the data, as well as factor analysis tests to determine the validity of each of the factors of managers' competency criteria and project success criteria. The correlation test has also been used to identify the relationship between managers' competency criteria and project success criteria. The software used in this analysis was SPSS.

3. Discussion and Results

According to the obtained results, this issue has been studied in three sections: identifying competency criteria, managing the identification of project success factors and localized project success criteria in the following detail.

Factor analysis test indicates that the competency criteria of managers corresponding to the three scales of environmental, technical and behavioral can be appropriate criteria for identifying and evaluating competency for the position of project manager in the airport construction industry. In order to identify the localized model of management competency criteria in the airport construction industry, thirteen criteria out of thirty-six identified criteria are known as native criteria in Iran. These include: 1- Leadership competency, 2- Project financing management, 3- Project cost management, 4- Problem solving and decision making competence, 5- Project governance and leadership

management, 6- Project time management, 7- Strategic project management 8- Project quality management, 9- Competency management competence, 10- Integrated management, 11- Rules and regulations management, 12- Networking and teamwork competence, 13- Professional ethics competence.

In order to identify the local factors of the project success, the analysis and analysis of data performed using TOPSIS software identified ten of the thirty-eight existing factors as localized factors in Iran. These are: 1- Timely allocation of financial resources, 2- Existence of appropriate financial support, 3- Integration with project management, 4- Proportional payment of financial needs, 5- Integration of management, 6- Stability of management strategy, 7- Commitment and responsibility Stakeholders, 8- Examining the discrepancy of expenses in financial issues, 9- Completion on time, 10- Increasing the level of knowledge in the organization.

In order to identify the localized criteria of project success in the airport construction industry after the theoretical studies, collecting field information resulting from the implementation of the managers' questionnaire, and performing statistical tests and extracting factor coefficients for those factors with a factor coefficient above 0.7. They were introduced as the most relevant factors related to the questionnaire scales. These include: 1- Investigate the discrepancy of costs in financial matters, 2- Control of estimated rates in financial matters, 3- Completion of the project with the approved budget, 4- Allocate timely financial resources, 5- Proper payment of financial needs, 6- Estimating the costs of activities, 7- Alignment with the environment in project implementation 8- Complete the project on time, 9- Project management integration, 10- Information and Communications Technology, 11 Satisfaction of all stakeholders, 12- All participants have the same perception of the success of the project, 13- Maximum achievement of safety indicators, 14- Check the level of community confidence, 15- Define the project timeline, 16- Value-added education.

4. Conclusions

In this study, the competency criteria of managers in the construction industry were different from those management criteria that were generally published by the ICB for managers. Moreover, the project success factors in the airport construction industry are different from those that have so far been identified and used in other studies or other projects. Therefore, the projects of the construction industry are different from the other projects in terms of both theoretical explanation and the practical implementation process. Any uncontrolled risks in the implementation of airport projects can be

greatly damaged. Therefore, the risk factor for productivity has been taken into account in the project success factors.

The executive managers of the airport construction industry must have environmental qualifications to lead the project, succeed in the project financing, and secure the project contract. In addition, attention to the characteristics of the local and national conditioned is also a necessity for this management. In this research, each of the perceived environmental, technical and behavioral competencies of the managers referred to a positive and significant effect on the project success factors.

In this research, the competencies of the managers and the critical the project success factors were identified, developed and validated based on the environmental characteristics of the study field. As long as these local features have not changed, this tool can be exploited. Another activity conducted in this study was to detect the practical solutions for improving the competence of the airport construction industry managers. These solutions were processed in response to one of the research questions.

5. References

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