

## Estimates in Building and Construction Projects

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**Abstract:** This research aims to know the Estimates in building and construction projects through building projects tools, taking into account the basic provisions of the project management concept, obtaining systematic support for planning and making effective management decisions based on the use of information and analytical models to describe the production process and management system. The scientific novelty of the thesis research consists in solving a major scientific and applied problem and lies in the fact that it is the result of the development of information theory and methodology, analytical foundations for managing the process of implementation of construction projects, methods of situational decision-making, problem-oriented planning and proposed innovative development. Methods for evaluating the effectiveness of using the proposed methods for managing the implementation of construction projects in changing market conditions that are not well predicted have been improved.

**Keywords:** Analytical, situational, CCR, improved, estimates.

### INTRODUCTION

Financial estimations in building and construction projects are one of the most important activities inherent in design work. It has a significant impact on its course, and the financial estimates represent an important pillar in the implementation process. The question of proceeding with the design work until the stage of full completion or stopping at a certain stage of its stages depends on the accuracy of the estimates [Tserng, H.P. *et al.*, 2004].

This is Estimates form the basis on which issues of economic and financial planning and budgeting are built. For the project, it is an absolute necessity for any project, as it depends on it knowing the project costs and determining Economic feasibility, and then the process of managing financial financing, controlling expenses and distributing costs.

The good has an important basis for securing the financial funding needed to design and implement the project, if the project is economically, or to request the necessary financial appropriation for it in the general budget if the project is a developmental sector general [Lin, Y.C. *et al.*, 2006].

These financial estimates, if they are realistic, are based on correct practical bases in their estimation, and are prepared according to Proven scientific methods contribute to bringing the project into implementation in a satisfactory manner. Random or guessing, it will be inaccurate, or exaggerated, and this may lead to cancellation. The project for economic or financing reasons if the project is economic, or delaying it indefinitely [Lin, Y.C. *et al.*, 2008] Or postponing it until the financial appropriations is obtained for it if it is a

developmental follow-up to the public sector, or it is exaggerated by the deficiency [Yang, J.B. 2007; Woo, J.H. *et al.*, 2004].

This will lead to the project stumbling and stopping after the completion of the design phase and at the stage of its launch for implementation and perhaps even after its introduction and start of implementation, or to a low level of quality and performance [Hoła, B. *et al.*, 2012; Akinci, B. *et al.*, 2006].

The financial estimates for the completion of the project (design, supervision, implementation) are not the only estimates that Concerning the work of building and construction projects, there are also time estimates, which are also important. which of them Estimating the time required for design, as well as estimating the time required for implementation, and this will address this Research all these estimates and their branches because of their importance in the field of projects, and the need to know them and how Prepared by engineers, employers and others involved in the enterprise industry.

Financial estimates for implementation It is the estimation of the total financial costs necessary for the implementation and completion of the project, and it is the largest amount of costs. In construction projects, therefore, it is considered one of the pillars for the success of the project if these estimates are based on the foundations Correct and reliable methods. [Caldas, C.H. *et al.*, 2005]

Implementation cost estimates are an important part of design work and one of its necessary documents, estimating costs.

Implementation is closely related to the level of design and its effectiveness, so it is assigned to the consulting cost estimation process. The designer or the designed engineering department if the project is for the public sector and is being self-designed.

Because of the importance of accuracy in implementation cost estimates, design contracts in the United States of America stipulate. For example, the design consultant must without paying the owner additional amounts if they exceed bids. Competitors for implementation 5% of the consultant's estimates, and this shows the linkage of design to cost and constitutes an incentive. To raise the level of design to be within the budget set by the owner. [Forcada, N. *et al.*, 2007; Tan, H.C. *et al.*, 2007]

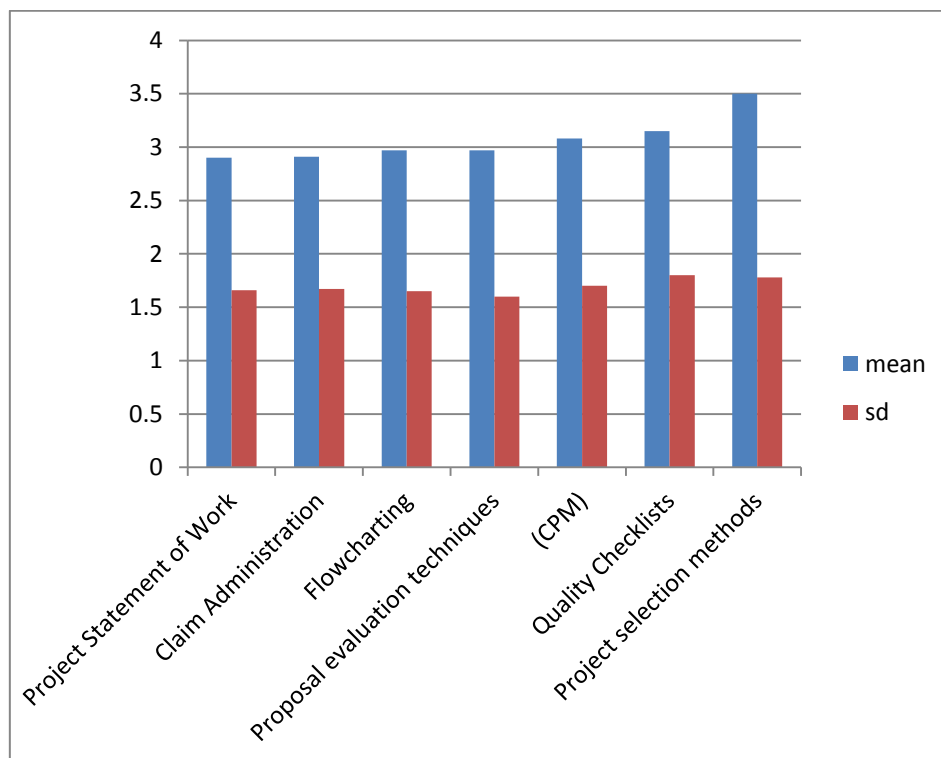
Cost estimates have several methods and methods until they reach their final form, and this is what we will come to a statement on its details.

It is necessary to note here the importance of confidentiality of the estimates, especially the pre-final and final estimates and inventory the number of people familiar with it, or who has the authority to view it in the narrowest possible way.

Engineering construction plays a very important role in the national economy, especially in the 21st century due to the active development of the state

and society. The joint goal of the state and the construction company is to achieve maximum efficiency in the complex and time-consuming process of managing construction projects. In order to improve the quality of its implementation and reduce the possibility of emergency situations, relevant organizations should pay due attention to the management of these projects, establish effective supervision and promote sustainable development of the construction industry. Scientific and advanced management systems, in addition to high-level business management and technology, ensure the quality and efficiency of construction, the safety of human life and property, and contribute to the healthy and sustainable development of society. Project management in the construction industry has a number of advantages: high quality requirements, a wide range of specializations, heavy management, large investments, etc. The increase in the level of management should improve the quality of construction, and the efficiency and effectiveness of management should meet the needs of social and economic development. Keywords: building project; project management; Efficiency and project management. The efficiency and effectiveness of management must meet the needs of social and economic development.

## RESULTS



**Figure 1:** Evaluate the effectiveness of project tools and methodologies used

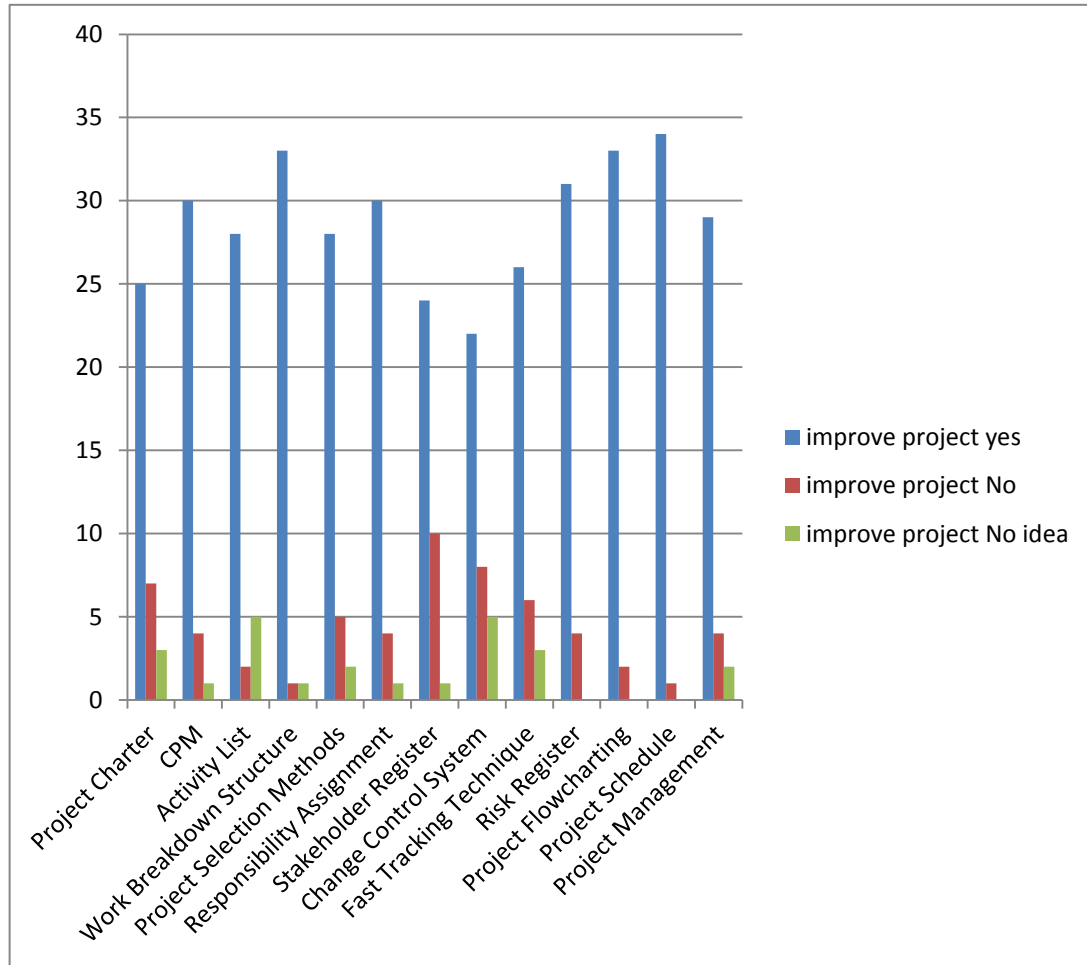


Figure 2: project tools and achieving customer satisfaction

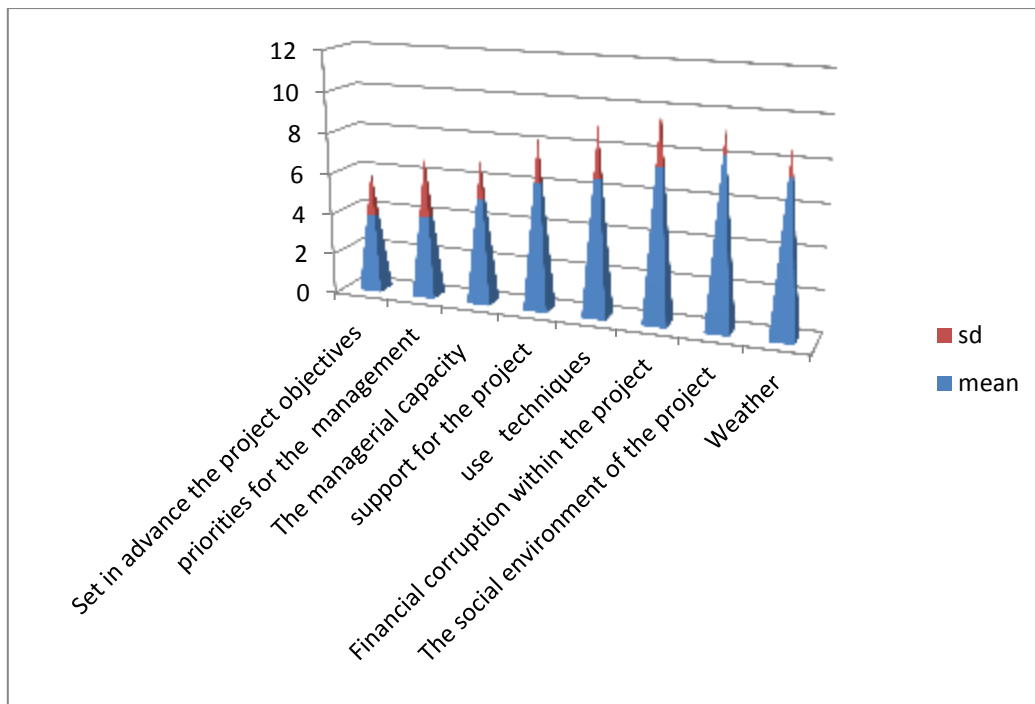


Figure 3: reasons to achieve customer satisfaction

## CONCLUSION

The management of construction projects is influenced by various factors: society, industry, resources, technology, etc. The construction project management system includes a large amount of knowledge of the subject and people (teams) as the carrier of knowledge dissemination.

To increase the level of knowledge in the field of construction project management, management personnel must continuously improve and develop using advanced methods and modern concepts to improve the management system. Leaders at all levels should pay more attention and respect to talented employees, provide them with a platform to develop, improve the quality of construction teams and raise the overall level of construction.

According to research in the field of engineering project management, knowledge, quality, communication and intelligence are very important to competent project management. For the most effective management of construction projects, it is necessary to make the most of the resources.

The progress made in the development of management techniques in recent years is closely related to the widespread use of project management methodology. However, the management and decision-making methods used today within the framework of the concept of project management are poorly structured, which makes it difficult to use information systems for their implementation. This, in turn, reduces the effectiveness of managerial decisions made for this reason, mainly on a personal basis. These difficulties can be circumvented using analytical information management methods based on the widespread use of technology, situational decision-making, targeted planning of problems and innovative principles of construction production development.

## REFERENCES

1. Tserng, H.P. and Lin, Y.C. "Developing an activity-based knowledge management system for contractors." *Automation in construction* 13.6 (2004): 781-802.
2. Lin, Y.C., Wang, L.C. and Tserng, H.P. "Enhancing knowledge exchange through web map-based knowledge management system in construction: Lessons learned in Taiwan." *Automation in Construction* 15.6 (2006): 693-705.
3. Lin, Y.C. "Developing a knowledge map for construction scheduling using a novel approach." *Automation in construction* 16.6 (2007): 806-815.
4. Yang, J.B. "Developing a knowledge map for construction scheduling using a novel approach." *Automation in construction* 16.6 (2007): 806-815.
5. Woo, J.H., Clayton, M.J., Johnson, R.E., Flores, B.E. and Ellis, C. "Dynamic Knowledge Map: reusing experts' tacit knowledge in the AEC industry." *Automation in construction* 13.2 (2004): 203-207.
6. Hoła, B., Polak, A., Gawron, K., Sawicki, M., Morka, M., Gronowicz, W. and Skibniewski, M. "Maps for small and medium-sized construction firms." *Proceedings of the Creative Construction Conference*. Szent Istvan University Ybl Miklos Faculty, (2012): 252-262.
7. Akinci, B., Kiziltas, S., Ergen, E., Karaesmen, I.Z. and Keceli, F. "Modeling and analyzing the impact of technology on data capture and transfer processes at construction sites: a case study." *Journal of construction engineering and management* 132.11 (2006): 1148-1157.
8. Caldas, C.H., Soibelman, L. and Gasser, L. "Methodology for the integration of project documents in model-based information systems." *Journal of Computing in Civil Engineering* 19.1 (2005): 25-33.
9. Forcada, N., Casals, M., Roca, X. and Gangoles, M. "Adoption of web databases for document management in SMEs of the construction sector in Spain." *Automation in Construction* 16.4 (2007): 411-424.
10. Tan, H.C., Carrillo, P.M., Anumba, C.J., Bouchlaghem, N., Kamara, J.M. and Udejaja, C.E. "Development of a methodology for live capture and reuse of project knowledge in construction." *Journal of management in engineering* 23.1 (2007): 18-26.
11. Lin, Y.C. and Lee, H.Y. "Developing project communities of practice-based knowledge management system in construction." *Automation in Construction* 22 (2012): 422-432.
12. Udejaja, C.E., Kamara, J.M., Carrillo, P.M., Anumba, C.J., Bouchlaghem, N.D. and Tan, H.C. "A web-based prototype for live capture and reuse of construction project knowledge." *Automation in Construction* 17.7 (2008): 839-851.

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