

Comparative Comparison of the Elena Project and Value Engineering

Faezeh Omrani and S. H. Yakhchali

Abstract— Today, in a situation in which the world is facing various changes at any moment, organizations have to adapt themselves to these unpredictable changes for Survival in the world village. For this purpose, a significant number of organizations, moved their activities from the traditional way of managing affairs to the management of the organization as project-oriented approaches. The Elena project guide uses a five-dimensional system for project management and leadership that anyway from a perspective, study the project management and leadership. These five dimensions are: Principles, concepts, processes, tools and Fitting. Value engineering is one of the solutions that with using a systematic program and relying on team creativity, while reviewing the project, it identifies saving opportunities and gives it to project managers. At present, the engineering value management technique are used to reduce costs and time while maintaining quality in the most of projects. As we know, given the long history of this management technique, and given the results of the use of this technique in the projects, we find that using the engineering value management technique to achieve these factors which is the same as the demands of the project stakeholders, are considered. In this research is discussed, the problem of integrating value management and the leadership of the Elena project.

Keywords— Value Engineering, Elena Project leadership, Processes, Concepts.

I. INTRODUCTION

Now, to reduce the costs and time while maintaining quality, most of the projects are used the engineering value management technique. As we know, given the long history of this management technique and the results of the use of this technique that used in the projects, we find that using the engineering value management technique is in order to achieve these factors, which is the same as the demands of the project stakeholders. But the question is here: that many projects are engineering valued, but not used an appropriate management tool to implement the engineering workshop and its results.

II. LITERATURE REVIEW

El-Nashar & Elyamany, 2017, considered the application of value engineering to tackle the problem of irrigation canals. In this research, the value engineering method was used to find a

Faezeh Omrani, School of Industrial Engineering, Collage of Engineering, University of Tehran, Tehran, Iran.

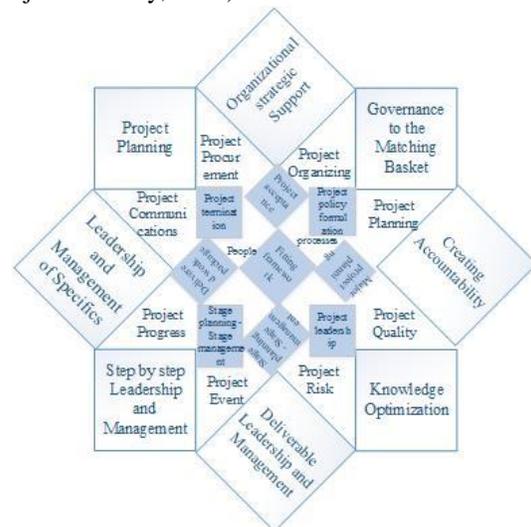
S. H. Yakhchali, School of Industrial Engineering, Collage of Engineering, University of Tehran, Tehran, Iran and Elena Research Council (ERC), Tehran, Iran.

substitute for water scarcity which maintains and / or increases the performance of the water system with minimal cost. Also in another research, Heralova, 2016, study on feasibility the use of value engineering in highway projects. Amirkhani, 2015, study value engineering in the construction and project management. In other research in 2016 by Rachwan, Abotaleb, & Elgazouli, examined the impact of value engineering and sustainability on the value of the project. Abdelghany, Rachwan, Abotaleb, & Albughdadi, 2015, studied the impact of value engineering to improve the value of residential projects. Cheah & Ting, 2005, assessed the value engineering in construction in Southeast Asia.

III. RESEARCH METHODOLOGY

A. Introducing the Elena Project Leadership

Considering that a project can be examined from different dimensions, the Elena project leadership uses a five-dimensional system for project management. These five aspects are: Principles, Concepts, Processes, Tools, and Fitting (Haji Yekhchaly, 1393).



B. Value Engineering

A systematic approach to identified techniques that identify product and service functions and for that function, it creates worth value, so that the level of reliability and quality does not go down and the costs are minimized. This is a definition that has been expressed for value engineering by this association. (International Standard for Value Engineering, 1998).

IV. INTEGRATION OF VALUE ENGINEERING AND ELENA PROJECT LEADERSHIP

Value engineering in the framework of project management, Meanwhile, it looks at all the components of the design, but does not definite know No part of the job. Value engineering goal is less time to reach the exploitation stage without adding costs or reducing the quality of work.

In this research, study the integrating value engineering with the concepts of the Elena project leadership as a standard in project management that these concepts include:

- Project Procurement
- Project Planning
- Project quality
- Risk of project
- Project event
- Project communication
- Project progress
- Organize the project

In other words, the study of value engineering is addressed in planning, quality, risk, progress, event, communication, organization and procurement of the project and how to change these concepts are discussed in the Elena project leadership.

V. CONCLUSION

Value engineering is management approach and creative vision that utilizes the value engineering to be a system approach which seeks to find the best balance between cost, credibility and reliability in products or projects. Applying this approach to the life cycle of the project and its position in the concepts of the project management process can play an effective role in developing its application in the designs. In fact, value engineering should be considered as a kind of management tool for solving a problem in a wide range of uses by anyone.

These concepts are discussed by applying the contents and concepts of the standard of the Elena project leadership in the project management topics, comparative comparisons and the effectiveness of value engineering. In addition to familiarizing with the Elena project leadership and its implications and applying value engineering in these discussions, it helps to understand this issue further. The results indicate that value engineering measures play an important role in determining the efficiency of decision-making units, so combining engineering value criteria along with the criteria of the ELENA project leadership can play a decisive role in the correct selection of projects.

REFERENCES

[1] Abdelghany, M., Rachwan, R., Abotaleb, I., & Albughdadi, A. (2015). Value engineering applications to improve value in residential projects. Paper presented at the Proceedings, Annual Conference–Canadian Society for Civil Engineering.

[2] Amirkhani, K. (2015).. Effect of Value Engineering in construction and project management RESEARCH JOURNAL OF FISHERIES AND HYDROBIOLOGY, 351-354

[3] ANSI Standard ANSI/EIA 748-98.(1998). Earned Value Management Systems, American National Standards Institut.

[4] Behncke, F. G., Maisenbacher, S., & Maurer, M. (2014). Extended model for integrated value engineering. *Procedia Computer Science*, 28, 781-788
<https://doi.org/10.1016/j.procs.2014.03.093>

[5] Charnes, A., Cooper, W. W., & Rhodes, E. (1978). Measuring the efficiency of decision making units. *European journal of operational research*, 2(6), 429-444.
[https://doi.org/10.1016/0377-2217\(78\)90138-8](https://doi.org/10.1016/0377-2217(78)90138-8)

[6] Cheah, C. Y., & Ting, S. K. (2005). Appraisal of value engineering in construction in Southeast Asia. *International Journal of Project Management*, 23(2), 151-158.
<https://doi.org/10.1016/j.ijproman.2004.07.008>

[7] Chen, W. T., Chang, P.-Y., & Huang, Y.-H. (2010). Assessing the overall performance of value engineering workshops for construction projects. *International Journal of Project Management*, 28(5), 514-527.
<https://doi.org/10.1016/j.ijproman.2009.08.005>

[8] El-Nashar, W. Y., & Elyamany, A. H. (2017). Value engineering for canal tail irrigation water problem. *Ain Shams Engineering Journal*.
<https://doi.org/10.1016/j.asej.2017.02.004>

[9] Heralova, R. S. (2016). Possibility of Using Value Engineering in Highway Projects. *Procedia Engineering*, 164, 362-367.
<https://doi.org/10.1016/j.proeng.2016.11.631>

[10] Mahadik, U. A. (2015). Value Engineering For Cost Reduction and Sustainability in Construction Projects IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE), 95-97

[11] Sharma, A., & Belokar, R. (2012). Achieving success through value engineering: a case study. Paper presented at the Proceedings of the World Congress on Engineering and Computer Science.

[12] Tohidi, H. (2011). Review the benefits of using value engineering in information technology project management. *Procedia Computer Science*, 3, 917-924.
<https://doi.org/10.1016/j.procs.2010.12.150>

[13] Youssef, M. A., Mohammed, I. A., Ibraheem, A. N., & Hussein, I. M. (2012). VALUE ENGINEERING ANALYSIS FOR THE EDUCATIONAL BUILDINGS IN EGYPT. *International Journal of Optimization in Civil Engineering*, 2(1), 103-113.