

# POTENTIAL ROLE OF VALUE MANAGEMENT IN CONSTRUCTION INDUSTRY

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## Abstract:

Value engineering is a proven management technique using a systematized approach to seek out the best functional balance between the cost, reliability, and performance of a project. The concept of value engineering (VE) is becoming more important and relevant to the developing country like India. Value management of any project is to assured about the value of things which is implement by VM team is satisfy to the clients requirement and batter proven that the value for money for what he/she have to paid. This paper is based on the educational building with staff quarters under the government scheme of Sarva Shiksha Abhiyan (SSA). The paper shows the application of value management, it is a decision making tools which is works on to remove unwanted things and to improve it by cost reduction as well as increasing the function of that part. It doesn't mean that quality compromise. The main aim of this paper is to optimize the construction cost without compromising the quality and with satisfactory value of client; the project is completed by the removing unnecessary cost. At the end of research result is 7% cost reduce by the VE exercise from the various source of data. This exercise is done by the multi-disciplinary team members. So at the end of the project client have good economic benefit and we can also give the recommendation to put value engineering (VE) department the body/authorities which is works on this types of similar work.

**Key Words:** Value Management, Job Plan, Value Engineering Teamwork, Function, Life Cycle

## 1. INTRODUCTION

Value management is also a Planned, & logical method which seeks to realize importance of value for money by providing all the mandatory functions at least cost of the specified levels of quality and performance. Value Management (VM) may be an expert plan to implement work determines whether construction of a facility will provide best function at very rock bottom possible cost. The major contributions of value management is to the developing construction industry include optimize value for money, creates a clearer focus on project objectives and works towards arriving at a simpler design. Still, poor communication, lack of interaction and unwillingness of clients to pay money for value management service is the challenges affecting the adoption value management.

The best time to implement of VE is in the early development phases on a project. Optimal advantages are going to be obtained on larger and more complex projects. There are various types of VE job plan phase like, Information phase, creative and judgment phase, Evaluation phase, Development phase, Recommendation phase.

As per fundamental right and the 86th Amendment to the Constitution of India making free and compulsory education to children between the ages of 6 to 14. SSA is an Indian Government program aimed towards the primary education in the entire country in a short time. As an innovative program functional since 2000-2001.

Over several phases, covered 272 districts in 18 states of the country. The initial outlay was Rs.7000 crore in year 2011-12, the govt. of India allocated 21 thousand crore for this project. Many persons and trust has also contributed and as the program became more popular fund also grew. This research is based on one of them project which was completed so the value analysis is work out on that part.

## 2. OBJECTIVE

The objectives of this research as follows:

- To study about value management system for construction work.
- To improve project performance in terms of time, cost and quality targets of the project & maximize the benefits by the application of value management.
- Also to solve cost overrun and time overrun problem which are face during construction.

### 3. METHODOLOGY

This present paper is based on government works under the construction of Sarva Shiksha Abhiyan educational building, researches conducted by the research scholar student of post-graduation, review of related literatures, websites, documentary resources from the Gujarat states, local bodies and construction firm data collected. All data sources have been applied to have a concept of the value management under the study area.

### 4. SCOPE OF STUDY

The research and literature is shows effective benefits by the application of value management at the early development phase of the project. The parameter cost, time and quality for the maintaining good performance, the effective decisions are taken at early development phase of the project. This project is limited to the educational building project which is already completed.

### 5. VALUE PROGRAMS

Value program may include the following three types of process.

**Value Engineering:** Describes a value study on a project that is being developed. It analysis the cost of the project as it is being designed.

**Value Analysis:** Describes a value study of a project that is already built and analyzes the product to see if it can be improved

**Value management:** Identifies the methodology and a technique used in value work, but does not distinguish between engineering of a building analysis of the project.



Fig -1: VM with manage-Time, Cost, Quality

### 6. RESEARCH FINDING

The researchers have selected a project for this research at the stage of construction process value analysis stage for the value management process. The project information is considered as per below:

Table -1: Project Detail considered for studies

Project	Location	Project Cost	Project Time	Project Status	VM Stage
Educational building with staff quarters	B.K. District, Gujarat, India.	7.74 Cr.	12 months	Completed	Value Analysis

### 7. BENEFITS OF VM

Benefits of the value management highlighted by the VM tem as:

- Advantage in over budget of project
- Owner have benefit of value for money against paid money
- Quality product in optimum cost with best function and life cycle
- Clear focus on project objectives
- Provide more effective and economic design
- Applicable on all types of projects (New, Existing, On-going Projects as well as Maintenance work)
- Utilize best technology at lowest cost.

## 8. RESULTS AND DISCUSSION

The project of educational building contains number of items in the BOQ, but the VE job plan was worked out on 18 major items as shown in below graph. From the graphical indication the cost difference is clearly mention between original concept and proposed concept. The proposed concept is selected based on considering the parameters like cost, function, performance, life cycle, quality etc.

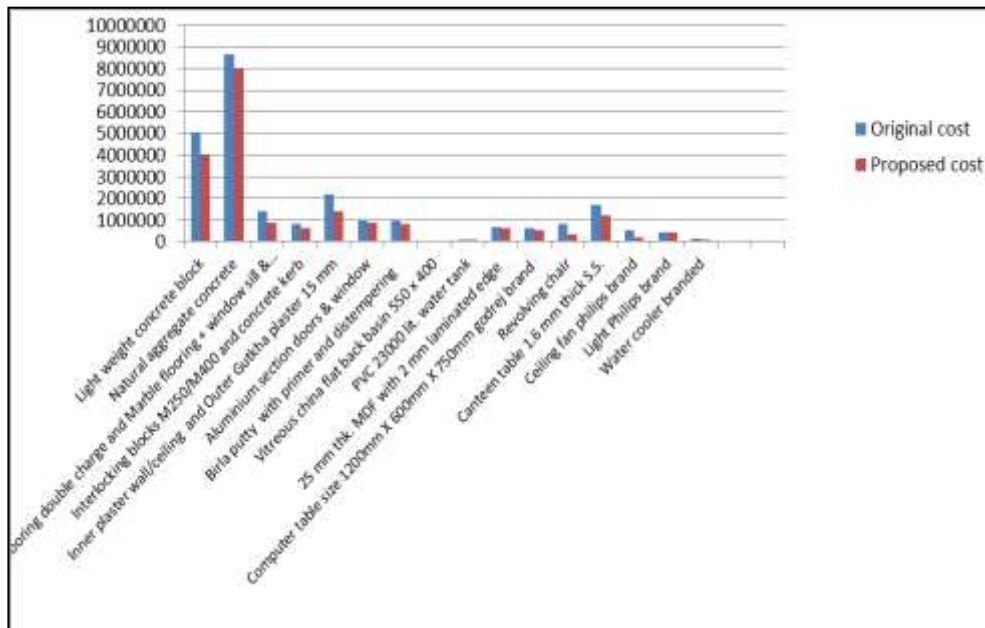


Chart -1: Cost comparison after VM

## 9. CONCLUSIONS

### General

Value management is a Structured, and analytical process which seeks to achieve value for money by providing all the necessary functions at the lowest total cost consistent with the required levels of quality and performance. VE has several techniques that provide a tool kit of value analysis, this technique are identify the key elements like function analysis, creative thinking, job plan, cost model, evaluation matrix, habits, roadblocks and attitude and also managing the owner/ designer/value consultant relationship.

There are various methods are available for the value management. A part of them I was chose VE job plan method. The benefit of this method as following:

- Value improvement of product
- Productivity increase
- Quality increase
- Cost optimization

The fact that is value engineering is introduced and use for new ongoing projects as well as renovation type project. It is also done on existing building for the recommendation purpose especially for similar type's project which is to provide value for money for client/owner of the project and enhance the batter performance of the project. Value management is a tool/exercise to optimize value for money, create clearer focus of project objectives, works towards more effective design, works on similar or more advantageous functional part and identifies unnecessary costs through unnecessary design, material, labour and equipment.

### Research specific conclusion

This research is based on existing project of educational building under the government scheme of Sarva Shiksha Abhiyan. Govt. is allotted a budget 21 thousand crore rupees for these types of project in India. So by doing value management on that selected existing project and from the value analysis the result of cost difference of original concept and proposed concept is

clearly seen. From that almost 7% cost of total construction cost is saving. So from the base of this research it is recommended to the people who are concern with construction industry, government authority/body as well as construction company to advice that place the value engineering department in his firm.

#### Future scope

This type value engineering exercise is also can do for the various type of project like commercial building, bridge, road transportation and it gives a truthful result and benefit to the client/owner/Investor. By doing these types of exercise for infrastructure project it should be recommended to construction industry to mandatory a VE department in their firm then it gives economic benefit to the country.

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#### BIOGRAPHIES



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