Project Cost Management in Construction Industry in Ho Chi Minh City

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Abstract: Cost management always being the matters for project manager as well as other entities involved the construction projects. Vietnam is emerging country, many construction works were carried out and lot of construction projects will be developed in the near future with a huge investment capital come from outside and inside Vietnam. In recent years, international project management firms enter the Vietnam construction market, some issues emerged need to be solved. In which cost and schedule of the construction project was put in a thoroughly consider of not only project management team but also stakeholders. The research attempts to identify and assess the relationship of factors affecting the construction cost in construction phase in Ho Chi Minh City, Vietnam. Five main factor groups Owners/clients; Consultants; Contractors; Resource and Other were identified to propose the solution for cost management.

Keywords: cost management, project management, construction management, Ho Chi Minh city, Vietnam.

I. INTRODUCTION

Vietnam's economic growth rate has been among the highest in Asia in recent years. This growth has been accompanied by a surge in construction activities, which has created a strong demand for building and construction materials.

With a population of more than 90 millions, accommodation and facilities such as supermarkets, and leisure centers in Vietnam is still a critical need, especially in big cities such as Ho Chi Minh City (HCMC), Hanoi, Can Tho and Da Nang. Ministry of Civil in Vietnam (2007) has investigated the factors leading to cost and time overruns in construction projects such as low financial capacities of contractors and owners. The objectives of this paper include:

1) Determine the key factors that affecting to cost of construction project in Ho Chi Minh City.
2) Recommend solutions to manage construction cost.

II. LITERATURE REVIEW

In Vietnam, there were some previous researches about the performance of the construction projects, some of those studies about construction cost as follows:

Long et al (2008), construction projects have been mushroomed in Vietnam since 2000, and during the project delivery mainly in construction phase there are two main concerns in construction project in Vietnam are delay and cost overruns. The paper point out 5 most frequent and th author also alarming from this paper, contract management work should be focused. According to Uyen, T. (2003), the capital loss ratio in basic construction accounts for 30% of the total construction capital due to poor management. Tam and Thi (2008) point out that among Critical Factors Varying Construction Cost, the volatility of inside and outside factors that impact to project and make project complete successful, in practical there is a difference between actual cost and planning cost. Cost overruns affecting project performance and harm the interests of projects stakeholders Luu T. Van et al. (2004) have confirmed that there are two main factors affecting to variation cost of construction project: schedule for each scope of work and material price, basically steel and cement. In practice, project is unique so there's no measurement to assess variation cost of all projects. Based on literature review above, there is no previous research about this study. This research focus on identifying the factors affecting cost management in Ho Chi Minh City in Vietnam.

III. DATA ANALYSIS

A. *Sample Size*

The authors distributed the questionnaires through the civil engineers working in companies that involve in construction industry like clients, consultants and construction firms. Four hundred sets of questionnaires were distributed to the potential respondents in Ho Chi Minh area via Email, postal and face to face interview at all levels in the organizations within the construction industry. The authors get the information from the websites of companies. After have the information companies, the researcher contacted with the company representative to get email to send the questionnaires. There were 155 answers in total of 400 sets of questionnaire sent and it means 38.5% percent rate.

B. *Respondent Profile*

Management board take 34.8%, they are companies' leaders and important decisions makers. Follow by head of department in construction companies, it take 32.3%, they are expertise in construction field or related field. They are in charge of contract management and construction site management. The last component is engineer they take account for 32.9%. They are site engineers, designers and quantity surveyors. The number of people with 5-10 years

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of experience the highest proportion 27.1%, followed by people with 0-5 years of experience with 26.5%, people whose experience from 10 to 15 years take 25.8%. Finally, people with years of experience over 15 years, they accounted for 20.6%. These characteristics show the questionnaires were evaluated by the experienced professionals. The number of respondents in the sample had participated in the projects with a total investment of over $1 USD million accounted for 77%.

C. Data Analysis Results

We observation that 25 variables are grouped into five factors, at value 1.844 of eigenvalues, the Cumulative extraction sums of squared loadings explained 67.04%> 50%. The most ten important factors include: Method and procedure in biding/tendering is not suitable, Project manager's competence is not well-proportioned, Management onsite is not good, Coordination and exchange information between contractors and relevant entities onsite is limited, Management and cooperation activities on site are not sufficient, Design drawings are not completed, contain mistake that make misunderstanding and add work, Time for executing contract (construction schedule) is not practical, Lack of commitment from high level of board of management to project, Financial difficulty of contractors, Productivity and quality of construction material that were produced inland is not meet the demand, must import from outside. Five main group factors include: Owners/clients; Consultants; Contractors; Resource and Other group.

IV. RECOMMENDATIONS

A. For Owners/Clients

They clearly define the objective of the project that including planning, designing, financing, constructing and operating physical facilities, life cycle cost…, consistent through implementing phases of the project. Set realistic expectation at the design stage; especially pay attention to life cycle cost of the project. This is a crucial first step towards making the project a success. Feasibility study should be carried out carefully, avoid fraudulent to get project and then adjust the budget and schedule, especially state-owned projects. Hire professional consulting firms, they have the capacity, experience, responsibility and has been involved in many similar projects before. Apply strategies and policies for effective cost management by hiring consultants whose professional extensive experience in construction cost management will help control the cost of the projects.

B. For Contractors

Have detailed and comprehensive implement plan for project. Assess the risk that the project might have during construction phase. Arrange site manager (and his team) who must have ability and have good leadership, good communication… Equipped and apply effective tools such as the Project Management: Earned value management (EVM), Software (Microsoft Project, Primavera ...). One of the main features of the construction industry is the high fragmentation in its supply chain, so contractors must build up good relationship with suppliers and they willing to supply needed construction material on time.

C. For resource factors

Priority to use available and steady resources to project, avoid using especial construction materials or unique machine that need to import form outside or have to order to manufacture. Selection and calculation for storage plan that serve for construction site at certain stages to reduce price volatility of construction materials.

D. For Consultants Factors with Perspective of Management Consultants

Comprehensively understand construction progress. Understand effective documents, legal paper in construction industry that governs construction cost effectively to apply for; aware of the construction market, including: construction costs, sources of materials, construction technology. Interest and equip tools, processes, procedures to apply for cost management. And consult for clients to reduce cost overruns. Advice for investors to make full and effective work: project planning, interpreter designing documentations, construction estimating, bidding documents and choose contractors, financial planning, cost management, Construction schedule. Those with professional ethics and work objectively. To work independently, avoid alliances and create adverse effects on the project.

V. CONCLUSION

Over the study period, with data collected in Ho Chi Minh City via respondents have experience working in the construction industry, the survey results showed that: Research has to identify and assessed the severity of the 5 factors group that affect the cost of construction in Ho Chi Minh City, these factors make construction costs exceed the original cost estimate. Five factor groups are: Owners, Contractors, Consultants, Resources, Other. The research also made discussions about the solutions to keep a good cost management during construction projects in Ho Chi Minh City.

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