

ABSTRACT

It has long been recognized by the industry practitioners that how well pre project planning is conducted has a great impact on project outcome. This paper intends to investigate the relationship between pre project planning and project success based on the studies made in past on this subject. The study provides a valuable source of information that supports enhanced planning in the preliminary stage of the project life cycle and have constructive impact on the final project outcome.

KEYWORDS: Pre project planning, scope definition, Delay impact.

INTRODUCTION

“Well Planned Is Half Complete” Pre-project planning if done in a right can save your time, money and headaches. **Pre-project planning** is defined as the **“Process of developing sufficient strategic information for owners to address risk and decide to commit resources to maximize the chance for a successful project.”**

Pre Project Planning is one of the most important and crucial activity in the construction industry and its impact on the success of the project has been recognised by the Industry. The process of pre project planning comprises of broad formwork for detailed project planning and includes project scope definition. Developing an effective project scope of work during pre-project planning is a composite task that involves many participants and a variety of tasks that support the following project execution phase. The construction industry has recognized the significance of scope definition during pre-project planning and insufficient or poor scope definition, which negatively correlates to the project performance, is among the most problems affecting a construction project. Due to poor scope definition, final project costs can be projected to be higher because of the unavoidable changes which interrupt project pace, result in rework, increase the project time, and lower the productivity as well as the morale of the work force. How well pre-project planning is done will have a direct impact on the cost and schedule performance, operating parameters of the facility, as well as the overall financial accomplishment of the project. Planning highlights the necessity of scope definition and its direct impact on project success. The scope and subsequent project plan is a meticulous formulation of a continuous and orderly approach to be used during the execution phase of the project. Success during the execution phase of the project is very much dependent upon the level of effort and accuracy of scoping and planning in the initial phase of the project.

Inadequate scope definition and planning can and does lead to changes that will delay the project deliverables, causing massive amounts of rework, disrupt project rhythm, and lower the productivity and moral of the project team. Previous research has shown that better levels of scope definition and project planning significantly improves the correctness of project deliverables, reduces cost, eliminates rework and significantly improves the relationship between all internal and external stakeholders.

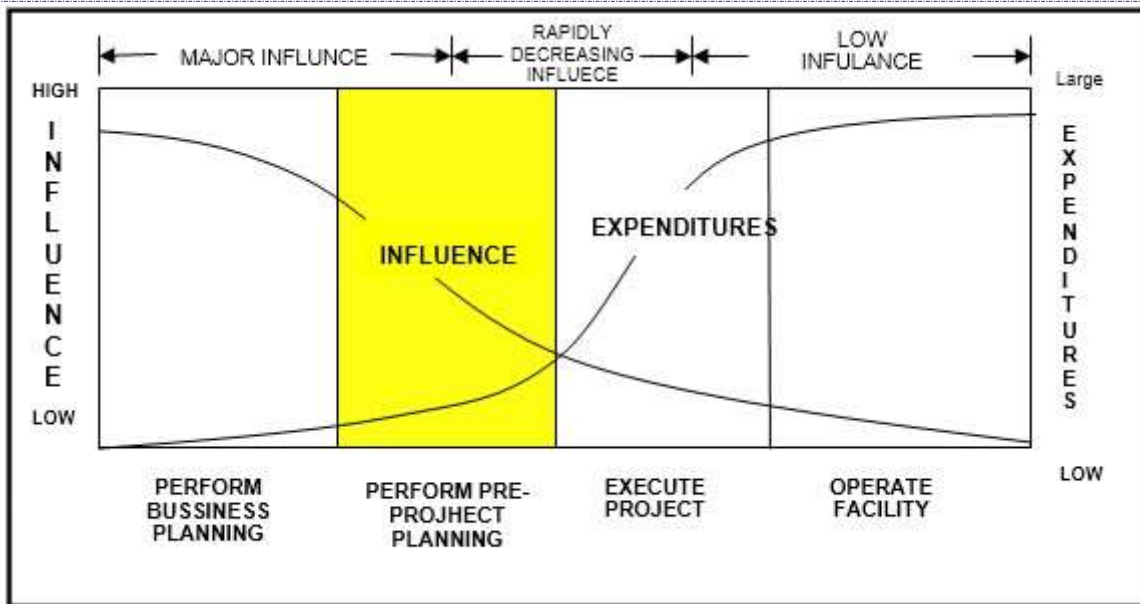


Fig. 1.1 Influence and Expenditure curve for project life cycle

As shown in fig.1.1, the curve labeled “influence” reflects company’s ability to affect the outcome of a project during various stages of the project. As the diagram shows, it is much easier to influence a project’s outcome during the project-planning phase, when expenditures are relatively less, than it is during project execution and facility operation stage when expenditures may be significant. As shown in fig.1, the four distinct stages of project life cycle are shown. The project planning stage includes both the business planning and pre-project planning activities.

RELATED WORK

Mohammed K. Fageha, Ajibade A. Aibinu

Project managers and decision makers need to develop a well-defined project in a manner that reflects stakeholders’ expectations, and accrues the benefits of their contributions, without compromising the purpose of the project. Thus, all stakeholders should have adequate opportunities to have their voice heard so that no element of the project scope definition is missed. Thus there is a necessity for a project scope definition process that considers every stakeholder’s perspectives and position if conflict is to be mitigated. The stakeholder’s input should thus be with respect to their concern on different project definition elements, so that their involvement reflects the degree of their importance and relevance to the project. This paper sets out the theoretical outline for integrating project scope definition practice and stakeholder management using participation theories. To empirically substantiate the amalgamation of the two, data collection and analyses will solve the research question: *How can the level of project scope definition completeness be evaluated to account for differences in stakeholders concerns to make possible a better project result in public building projects?*. The ongoing research aims to develop a procedure that will help a project management team measure the wholeness of project scope definition with ample consideration for stakeholders’ inputs. The procedure will help to achieve a better project definition that involves stakeholders’ inputs. In order to fulfill stakeholders’ expectations and concerns, or at least reduce the extent to which a single stakeholder is less or more involved, all stakeholders’ opinions are expressed in the scope definition in agreement with their significance in the project. The key contributions of the research is the development of a tool that enables decision-makers evaluate the intensity of project scope definition wholeness during the pre-project planning stage of building projects in Saudi Arabia. Besides the contribution to practice, this study would contribute to theory also. The literature infers that project scope definition practices and stakeholders’ management theories are two separate research domains, which are often investigated separately. On the other hand, this study will use procedural justice and participation theories to bring together the two research domains. The research aims to guide project managers and investors find the best stakeholder involvement that helps to optimise project scope definition.

Yu-Ren Wang and G. Edward Gibson, Jr.

Using the Project Definition Rating Index (PDRI) in the survey, the researchers were able to collect specific information regarding the completeness of project scope definition. A total of 140 construction projects were surveyed to investigate the pre-project planning practice in the industry. By evaluating the project scope definition, as an integral part of pre-project planning process, pre-project planning practices for these surveyed projects were analyzed and industry practices were identified from the sample.

From data sample, it is shown that some aspects of the pre-project planning process were typically well defined and some were poorly defined for the surveyed projects. Further analysis shows significant difference between successful and less-than-successful projects. By improving these poorly defined aspects in the pre-project planning stage, it is more likely for the project team to expect future project success. That is, cautions should be taken if these aspects are poorly decided in the pre-project planning process.

It is recommended that the industry practitioners to use PDRI to evaluate their pre-project planning practices. Poor pre-project planning practices can be identified after the PDRI evaluation and the project team should improve the process to enhance the probability of project success. Survey results have shown that some aspects are typically poorly decided and these aspects should be treated with cautions. Furthermore, the analysis results presented in the paper identified several aspects that are more related to project performance. With this information, the industry practitioners are able to allocate limited resources efficiently to improve the overall pre-project planning practices.

Hamzah Alshanbari

Understanding how pre-construction planning really affects project cost savings or profit can be a deciding factor for many construction firms to get involved in it. It will also pave the way to developing more effective methods or at least evolve the existing ones to get a higher return on investment. After all, it all comes down to how much it costs and what the pay back is. On the other hand, pre-construction planning can be the thin line between success and failures in some projects.

The survey data presented in this research showed many aspects of pre-construction planning starting with which sector of the industry embraces it more and ending up with what is the optimum percentage that can be spent on it. This, of course, does not mean that these conclusions are objective and final. Planning in general is a very subjective matter that can be interpreted in many different ways by many different professionals. The data presented in this research reflects the current understanding of pre-construction planning in the United States.

To sum up the findings of this research, there are many different pre-construction planning methods that can fall out of the four major methods described here. There are new methods and tools that can help construction firms achieve better results in their projects. In addition, the research showed that contractors are the main construction industry sector to embrace pre-construction planning and apply it although designers spent the highest percentage on applying it. It was expected that design-builders would have the highest spending percentage and return but that was not the case. Moreover, using past projects' data was the most used method in the industry. BIM was a far third after project control system but is expected to boom even more in the coming years.

It has also been pointed out in the research that using past projects' data, building information modeling and project control system methods had a fairly similar return on investment of almost 50%. The category "others" was shown to be the most successful method although it contained several methods mentioned in the results and analysis chapter. The methods describes as "others" also succeeded in saving the most time in project with an average of 1 month.

The most important finding in the research was the optimum percentage to be spent on pre-construction planning. That percentage was found to be about 12% of the total project cost where the project cost saving starts to decline with higher percentages. No respondents reported using more than 15% of the total project cost which makes the even bigger picture limited. It is not yet understandable how much will be saved in a project when applying even higher percentages. The overall feel is that when spending way too much on planning it would cost the project more than save it.

Ali Abbas, Zia Ud Din and Rizwan Farooqui

This study aimed to investigate the impact of PCP on project performance to move towards design-construction integration in the Pakistani construction industry and to promote large number of industry professionals to practice it. The study established that PCP could significantly improve project performance if implemented consistently and decorously. It is discovered that shortage of time for PCP and lack of key stakeholder involve at early stages are top two barriers that produced the highest effect on the implementing of PCP practices in Pakistan construction industry.

M.A. Sherif and A.D.F. Price

This paper has discussed the importance of pre-project planning as well as the processes involved as revealed by the CII. The pre-project planning processes described in this paper are owner focused and not specific, rather they are generic processes that can be customized to suit any company. In addition, there is a great emphasis on teamwork as means of improving quality. Bennett et al. (1995) mentioned that "project organizations consist of teams whose work must be coordinated so their combined actions can achieve agreed objectives". The emphasis on teamwork is also one of the principles of Total Quality Management (TQM). However, in order for teamwork to be effective, teams need to be aligned to avoid disputes resulting from differences in opinions among team members. Alignment tools are important during pre-project planning to help decision makers focus their attention toward their objectives rather than direct them to conflicts which affect the progress of the project. The CII have developed project planning tools that deal with both cultural and process issues and can help better understand what consists of good scope development and correspondingly the importance of alignment and communication among team participants.

Despite the success of these tools there are limitations. Among these limitations is that the tools mentioned have been mainly developed in the US and applied on very large projects. The fact that they are specifically designed for industrial projects leads to an important need to develop new tools that can be applied to other types of construction projects.

CONCLUSION

The early planning phase of capital facility projects is the main focus of the research intended in this work. How well pre-project planning is performed will affect cost and schedule performance, working characteristics of the facility, as well as the on the whole financial achievement of the project. The process of pre-project planning constitutes a comprehensive framework for detailed project planning which involves scope definition. Project scope definition, the practice by which projects are selected, defined and prepared for definition, is one key practice necessary for achieving excellent project performance.

REFERENCES

- [1] Mohammed K. Fageha, Ajibade A. Aibinu, "Managing Project Scope Definition to Improve Stakeholders Participation and Enhance Project Outcome" 26th IPMA Congress, Crete, Greece, 2012.
- [2] Yu-Ren Wang and G. Edward Gibson, Jr, "Pre-Project Planning and its Practice in Industry" ISARC 2006
- [3] Hamzah Alshanbari, "Impact of {re-Construction Project Planning on Cost Saving" A Thesis presented to University of Florida, 2010.
- [4] Ali Abbas, Zia Ud Din and Rizwan Farooqui, "Achieving Greater Project Success & Profitability Through Pre-Construction Planning: A Case Based Study, ICSDEC 2016.
- [5] M.A. Sherif and A.D.F. Price " A Framework for Pre-Project Planning" 15th Annual ARCOM Conference, 1999.