

Project control in multi-project environment in Sri Lankan construction industry

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PROJECT CONTROL IN MULTI-PROJECT ENVIRONMENT IN SRI LANKA

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ABSTRACT: Managing several projects simultaneously within an organization is common phenomena faced by managers in construction organizations. However, the conflicts are being usually occurred in managing of more than one project simultaneously within an organization due to constrain in sharing resources. Responsibility of managing more than one project usually is entrusted on the middle management of the organizations. This can be considered a multi project environment. This research is aimed to investigate and discuss the status of the management in multi-project environment in the construction industry. Various researchers try to address the issue with different approaches. According to the literature available and the initial study carried out by the researcher in this regard conclude, that the above specific situation is close to the Project Management Office Concept (PMO) described by the experts. This paper attempts to discuss project management status of the middle managements in construction organizations with cross reference to the PMO features. Project Management Office is defined as an organizational entity established to assist project managers and teams throughout the organization in implementing project management principles, practises, methodologies, tools and techniques.

The features of the Project Management Office were distilled from the literature reviewed. The presence of the PMO in the middle management level was statically analysed by using the t test. Furthermore, the status of the industry was analysed and discussed with the rating of the PMO features in the organizations. The questionnaire was designed to take response from the mangers who handled more than one projects in the Grade- 1 category of the Contractors. The findings reflect that the middle management divisions of the organisations may not give adequate support to the Project Management at implementation level. The results were discussed with the field experts to find out reasons and suggestions for improvements.

KEYWORDS: project management, project management office, multi project management

1. INTRODUCTION

Where the managing of an individual project has become a difficult task, the situation becomes much more complicated where there are multiple projects ongoing within an organisation. Projects need to be viewed as an integrated portfolio rather than a disjointed collection. The issue of managing multiple projects brings with it a new set of dimensions that organizations must address.

How can the construction organizations manage the bundle of projects simultaneously is a critical issue for organizational sustainability.

When, considering the project management in Sri Lankan situation, similar drawbacks are observed.

First the study attempted to observe the background check of the key construction player's organization structures to find out the existing situation. Then, literature review was carried out the check the

solutions/methods adopted by the experts in the project management. The close concept for situation was the project management office concept described by the literature. Subsequently a further literature review was carried out to understand and distil the PMO features. Based on the above, a questionnaire was designed. The survey was carried out within the middle management level of the Grade 1 contractors in the industry. The presence of the PMO features in the middle management level was statically analysed by using t-test. The status of the PMO in the industry was analysed by using rating of the identified features. The findings and the results of the analysis was discussed with the field experts to find out the reasons and possible solutions.

Lack of competent experts, project management and knowledge about the advantages of project management software are identified as the major deviations from the PMO concept. Furthermore, the supportive role for the project management by the organizations may not implement as a policy or mission by the divisions. Several suggestions were indicated to gain the advantages by implementing the PMO features in the middle management level divisions.

This report include following areas. Since, the area is little unknown a background search was carried out with the aim of identifying the concern areas regarding the key issue. Above said section includes definitions of multi project management, project management, programme management, project portfolio management and etc. Scope of work, problem statements and the objectives were identified secondly. Methodology and analysis was described in further sections. Detailed literature reviews carried out to find out the PMO features were compiled. Analysis carried out by various approaches was indicated. As, the theoretical

background of the PMO is very low, discussions with the field experts were carried out to verify the findings. Furthermore, possible suggestions given by the several experts to improve the PMO features in the organizations were included at the end of the report.

2. OBJECTIVES

The objective of this study is to investigate the status of project control divisions, which, can be considered as operating in multi project environment in Sri Lankan construction industry. Status will be accessed with respect to the PMO features. The objective of this study is to investigate the status of project control divisions, which, can be considered as operating in multi project environment in Sri Lankan construction industry. Status will be accessed with respect to the PMO features.

3. METHODOLOGY

3.1 Introduction

Preliminary literature review to find out baseline of the project office was carried out. Opportunity of research was established. Data and sample was selected from the registered contractors from Institution of Construction Training and Development Sri Lanka (ICTAD). ICTAD is the institution, which has most reliable list of the current construction industry players. Sample will be selected from multi project handling organizations.

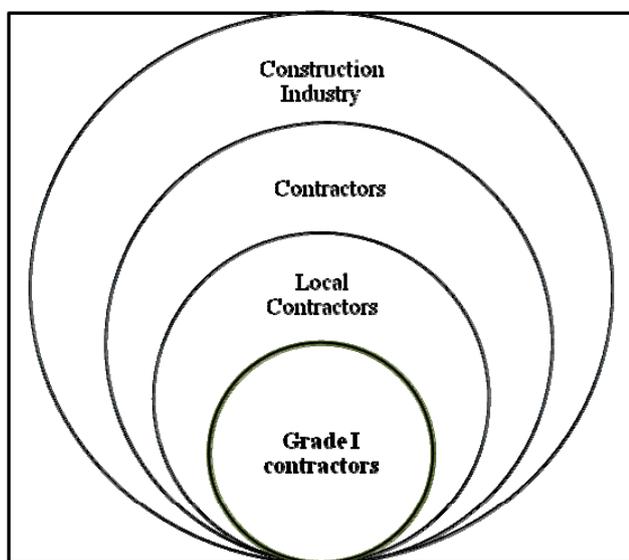
A thorough literature survey was carried out as background information to understand the basic functions of the PMO.

Questionnaire was forwarded to construction leaders in project management office/multiple project environment as management level positions who are

responsible for more than one project. One sample t-Test (Arthur, 2009) was carried out to find out the presence of the PMO features. The rating analysis was done for the purpose of comparisons and discussion with the field experts. More extensive literature review and discussions were carried out with the findings of the research questionnaire to find out reasons and suggestions.

3.2 Sampling

Figure 1 Stacked Venn diagram showing the population



During the initial study no developed divisions was observed in Grade 2 contractors. Since, our effort is to survey divisions, the Grade 2 contractors were omitted from the sample.

The emphasis was given to middle management of Grade 1 construction contractors since they have the necessary know-how and expertise for effective project control that can then be used to test the industry status.

3.3 Data collection and Analysis

This study utilized data collected through the use of a researcher created questionnaire. The questionnaire

featured Likert style scale that measured the status of the PMO features in the organizations.

The study consist quantitative data collection and qualitative questionnaire in the study population. According to, Wallen and Fraenkel (1993) “quantitative data are obtained when the variable being studied is measured along a scale that indicates how much of the variable is present.”

The study population is middle level managers in grade 1 construction contractors who are being involved in more than one project.

The questionnaire was delivered through e-mails. The survey is anonymous and utilized screening questions to determine the level of divisions.

The data was analysed with the use of descriptive statically analysis, one sample t- test to measure the presence of PMO (Arthur, 2009), and a qualitative trend analysis (Wallen and Fraenkel, 1993).

4. ANALYSIS AND DSCUSSION OF RESULTS

4.1 Summary of hypothesis testing

Table 1 Summary of hypothesis testing

No.	Hypothesis	Acceptance
1	Presence of PM standards and methods	H _A
2	Historical achieves of the project	H _A
3	Providing project Administrative support and reviewing	H ₀
4	Strategic and tactical planning	H ₀
5	Training of project management	H _A
6	Consulting and mentoring	H ₀

The output of the one sample t- test reflects that the 50% of PMO features are available in the middle management level of the construction industry. On the other way the presence of the PMO features in the construction industry is 50%.

4.2 Overall rating

Table 2 Overall rating

No.	PMO Feature	Rating
1	PM standards and methods	0.055
2	Historical achieves of the project	0.05
3	Providing project administrative support and reviewing	0.062
4	Strategic and tactical planning	0.06
5	Training of project management	0.047
6	Consulting and mentoring	0.057

Most divisions in the industry tend to provide project administrative support and reviewing. The surprise is developing and maintaining project management standards and templates is in lowest range. Training about the project management is the lowest one.

With reference to Dai and Wells (2004) findings for the project success, above said items (1, 2, and 3) have to be improved in the industry for the success of the projects.

No recognize plans found for the support of project management in the middle management divisions of the organizations.

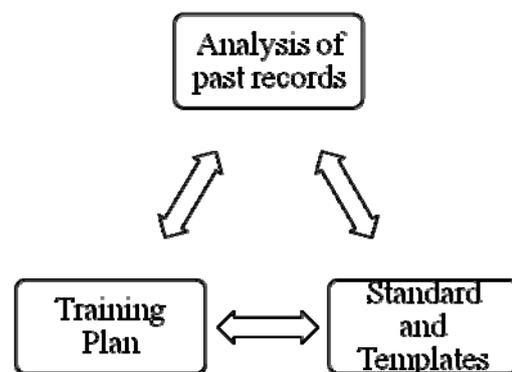
However, the basic reasons for the presence of PMO features in the divisions are to obtain organizational certifications, client requirements and higher management requirements.

Project administrative support, strategic and tactical

planning and project management consulting and mentoring are in highest rating. Therefore, keeping divisions is not objectively towards the supportive role of the project management.

The project management standard and templates, project historical achieves and training may interconnected. The relationship may as below.

Figure 4 Connection between past record, training and standard in an organization



Past records analysis may help to develop standards training plan and templates. Better training and templates will affect each other and past records analysis. However, it is reasonable to conclude that middle management divisions can see as a supportive and facilitative entity rather than as another level of directive management. The highest rating features were filtered and the reasons for the highest ratings were discussed with the field experts. The discussion summary is as below.

5. CONCLUTIONS AND RECOMMENDATIONS

5.1 Limitations

During, the research many limitations were observed.

- Disadvantages of having PMO were not discussed. There may be many disadvantages of the PMO, which, was not discussed in this study. Emerging another level of bureaucracy, increasing documentation works, possibility of organizational conflicts may be the main disadvantages.
- The standard set of PMO presence features has yet to be agreed upon in theory of practise is a major matter. The baseline of study depended on the distilled features from the literature. Furthermore, no respondent add any additional features to the list as requested during the survey.
- Lack of literature under consideration research area.
- The limited literature exists on the matter. Literature related to the subject on the construction industry is in minimum level.
- The maturity level of the organizational project management is different at each organization. Hence the outcome of the research may affect by the maturity level of the organization. If, there is any measurement on the maturity level the survey may be more effective.
- Lack of respondents.
- Even the researcher indicated the benefits of the study the responses are around 38%.
- Other works and roles executed by the divisions were not considered.
- The project management divisions in the organizations are consisted with other many duties. This study was focused only on the supportive role to the project management by the division.

5.2 Conclusions

The divisional managers in recent times manage their projects in random objective basis and it is considered that some improvement is required in the area. The requirement of filling the gap between

project management and top management is highlighted. More project management training support is required from the sectional heads in industry. The project managers have to be convinced of the importance of use of software in their project management work. It was hard to find a documented policy for the project control divisions. It means the divisional support to the project management is in very low level. This may be due to the fact that divisional managers are engaging in the some other functions in the organization rather than project management. The level of project management support from the organization has to be established too.

According to Dai and Wells (2004) findings, the project may be experiencing in lower success rate due to lack of project management t from the divisions to the Project implementation team.

The area may require further research as well as the project management in the industry. It may be useful for the development of the construction industry in the country.

In this regard the Divisions may work towards the filling of the experience and knowledge gap. The Divisions in the organizations tend to give administrative support, top management requirements, obtaining licences such as ISO certificates, ICTAD grades and etc. from appropriate governing bodies, monthly reviews, keeping records and resources and fund management up to some level.

It is also found that the analysis, training, risk management, responsibility distribution and IT development are required to be improved. The main reasons for not applying these management tools can be attributed to the lack of commitment by the higher management and tight schedule requirements of the projects.

As, a conclusion one can say a lower level of a project management office features are observed in

the industry.

5.3 Suggestions to improve the Project Management Divisions

Suggestions for improvement are found in the literature and discussions are as below

The suggestions will be presented in three parts and in proper descriptions of the management style to avoid any confusion. Road maps to implement PMO in an organization and tactics that may be used to demonstrate the impotency of the PMO are given below;

As, Tanaka (2009) said the style of management in multi project environment differs from single project management in the following manner;

- Project Manager Vs Manager of Projects
- For better understanding of the scope of the divisional manger his title may be used as Manager of Projects. There may be several Project Managers under the Manager of Projects.
- Project Vs Division
- Division may be identified as a collection of more than one project or bundle of projects.
- Bulldozer Capability Vs Helicopter Capability
- Bulldozer means the manager who pushes the works. This word is used for the project managers. However, capacity requirement of the manager of projects/divisional manager may be bird eye viewing of the several projects. It may be identified as the Helicopter Capacity.
- Self Cantered Optimization Vs Cross Divisional Optimization
- The divisional management may optimize their capacity through boundaries of divisional/projects. It may different from the project management.
- All rounded management Vs management by priority and focus

- Project manager may be all rounder for the management requirement of the projects. However, the divisional manager may manage priorities and focuses.
- Project management skills vs. hybrid skills of project management and general management.
- Project management skills consists of the requirements indicated in project management theories. However, the divisional manager may have project management skills and several general management skills. Tanaka describes this as hybrid skills.

Furthermore, Tanaka (2009) mentioned about the tactics that can be used to establish the divisional/PMO team as below.

- Assign high calibre members during start-up and build up.
- Every organization consists of high capacity members. Assigning them at the beginning of the division may give better results.
- Rotate staff members with line project management pools
- Rotating divisional staff members within the project management teams will give them more experience to work across the project boundaries.
- Let allow future project managers to expose PMO works
- Especially, the transition period between a completed project and the new project the project management staff can be assigned to the divisional office/PMO. Short term tasks can be given to them. It may useful to give more experience about organization culture and PMO functions.
- Do not fix PMO team members for many years to avoid bureaucracy and loss of the project mindset.
- The knowledge and experience about the project characteristics for PMO members may help to

perform their duties effectively. A mindset of the functional manager's can be induced to PMO team members with the long term assignment at PMO. However, this may affect the performance of PMO. In order to avoid this drawback, PMO team members may assign to projects from time to time.

- Maintain optimum balancing with line project management units, seeking a win-win relationship.
- This may be a duty of the divisional manager and the top management. Top management should have a clear idea about the project management and the PMO functions. Top management should pay more attention about assigning targets and giving rewards to both teams. They should try to establish a win-win relationship between PMO team and project teams.

Furthermore, the following tactics may be used to demonstrate the impotency of the PMO to the project management teams and the higher management.

- ISO quality management standard will be a good vehicle to improve the effectiveness of the division. Assessing a division frequently and making road map towards advanced level is a good method to improve. So that PMO may be used as a continuous improvement tool.
- Top management support and having the PMO report to upper management levels may improve the PMO role in the organization.
- Allocating some full-time staffing, and avoiding the appearance and reality of a PMO being seen by project teams as a "management watchdog" rather than as a supportive and facilitating unit.
- Providing various policy documents such as PMO mission statement, charters, and operating procedures.
- Demonstrating to project teams on how a PMO can be useful as a vehicle for bringing Project

Managements into a Strategic Planning and Operation domain of an organization.

5.3 Recommendations for future research

- There may many areas on the matter of multiple project management and PMO to study related to Sri Lankan Construction Industry. Some of them are;
- Developing of criteria to measure PMO performance and maturity.
- Most organizations do not have proper measurement criteria to measure the performance of the project management divisions. The organizations used the annual net profit of the project under the divisions to access the performance. It may not sufficient to measure the overall performance of the divisions.
- Road map for implementing PMO.
- Investigating of the way of implementing a proper PMO in the organizations may be a good approach. Most organizations tend to appoint a divisional head and give him the responsibility of implementation.
- As, per literature available, IT industry has gained more advantages through PMO than construction industry. Hence benchmarking study can be done between two industries.
- Relationship between presence of PMO or division with project success can be investigated.
- Dai and Wells (2004) have done similar kind of study with the PMI members. However, the matter can be investigated pertaining to the Sri Lankan construction industry.
- Contribution of ISO quality management system to develop the features of the project management office can also be investigated.
- As per the new ICTAD regulations certification according to the ISO quality standards is an essential for the Grade 1 contractors. The relationship and contribution of ISO quality

management standards with the divisions can be investigated.

- Assessing project management training and the contribution of PMO.
- The attention of the project management training of the industry was a one identification of this study. Further study can be done on the matter.
- Project manager's point of view regarding the PMO can be investigated.
- The conflicts between project managers and the head offices/ divisional offices can be observed in many organizations. The project manager's view about the divisional office may be an interesting issue.
- Implementing PMO in a foreign country.
- According to, Kezner (2009) and Tanaka the expanded operations of the organizations internationally is one of the reason to emerge the PMO. Investigating of foreign branches of the organizations may be a good case study.

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