CHALLENGES IN THE IMPLEMENTATION OF PROJECT MANAGEMENT IN DEVELOPING COUNTRIES: THE CASE OF SULTANATE OF OMAN

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ABSTRACT

The main objective of a construction project is to complete a project successfully; that is to complete on time, within budget and standard quality as specified. The objective of this paper is to explore the limitation and difficulties encountered by project manager in the implementation of the project management concept in the government project in the Sultanate of Oman. This study uses survey as the medium of date collection. The questionnaires were distributed to respondents that are directly involved in the project life cycle; from feasibility stage, design, procurement, construction phases until the completion of projects. The results of the survey found obstacles associated with the implementation of project management concept in the government projects. These include the identification of causes of delay, and variation orders. The results of this study revealed that the lack clients' awareness on the project management concept gave an impact on the implementation of project management concept in government projects. This study further found that variation orders and additional works are significant causes of delay in projects; especially in government projects. This paper also suggests recommendation to overcome these problems and insights for future research.

Keywords: *Project Management Concepts; Construction Projects, Government Agencies; Sultanate of Oman.*

INTRODUCTION

Right from the beginning of human history there had been projects and project manager, and there could be project managers, but of course, in a different conception as to the practice in the contemporary time. For example, the pyramids were built by the Egyptians under the managements of King Pharaoh and his lieutenant, Aaman. Likewise, the Romans built a road system in Europe. The English built a navy. All of these were obviously projects and, equally obviously, had project managers. What separates them from modern project management is the lack of a common systematic method of management. All three of these examples occurred at different historical times. All three were performed in

different places. All three were accomplished by people with different languages and different cultures. They are unlikely to have benefited from each other's experience (Jeffry, 1994).

According to (Barnes and Weave, 1993), in 1960's, "the United States private sectors took the lead to employ construction companies to provide Project Management services essentially required to control their projects during construction process". The implementation of this approach has witnessed popularity and approval particularly in the private sector. The approach has been extended to specialized Project Management/Construction Management firms regarding industrial, commercial and institutional projects. In spite of the successful implementation of the project management system worldwide, at present number of government projects in Sultanate of Oman have exceeded their completion time in addition to exceeding their budget.

This study aims to explore the limitations and difficulties encountered, from the owner's and the project manager's points of view, in the implementation of the PM system in government and projects, and also identify the advantages gained from such implementation

THE SULTANATE OF OMAN AND ITS CONSTRUCTION INDUSTRY

The Overview of Country

The Sultanate of Oman is a sparsely populated country facing the Arabian Sea, Gulf of Oman, and Persian Gulf, between Yemen and the United Arab Emirates. Oman is the second largest country in the Arabian Peninsula; having area of approximately 309,000 sq. kilometers of varied, striking terrain occupying the south-eastern part of the Peninsula. (Ministry of Information Oman, 2003; Oman Daily Observer, 1994)

Due to the small human-resource based and fast rate of development, Oman has relied on foreign workforce in both the public and the private sectors. During the construction boom of the 1970s and the 1980s, the country was staffed almost completely by foreign labor.

The employment of foreigners was not limited to the construction industry, and also occurred in the other fields like commerce, healthcare, education and communications (Al-Moamari, 2000).

The Growing Development of Construction Sector in Sultanate of Oman

This sector has witnessed many phases of development and growth for the past years. This sector, like the other economic sectors, has managed to cope with the developmental renaissance that the Sultanate is witnessing. This sector has also participated considerably in the Gross Domestic Product for the past years. However, the next phase of working in the contracting sector obligates the respective parties and the businessmen in the contracting sector in the Sultanate to find out the proper mechanisms to enable the sector to face the challenges that have been imposed by the changes and transformations of the new global economic system. Consequently, this is to boost the sector and to root its position on the map of the economic work locally, regionally and globally.

The growing development that the Sultanate has been witnessing at different levels and the government keenness in carrying out the developmental projects in different regions and states of the Sultanate will grant the chance before the companies and businessmen to do their projects. This will require companies of good reputation; therefore, the government has postponed carrying out many developmental projects due to the lack of such contracting companies because most companies are tied to carry out governmental projects. This led to raise the ratio of the waiting list.

Current Problems of Construction Industry in the Sultanate of Oman

Due to the development in the construction sector in the Sultanate, there are lots of projects offered by the government and the private sector before many contracting companies. But the problem resides in great lack of the active companies in the market that can be depended on greatly to carry out different projects especially, the government projects, and the big housing and commercial projects. The number of registered contracting companies in the Omani Chamber Commerce and Industry is 14000 records number of operating companies are 7000 number of the active contractors range from 300 to 400 this ratio is

considered low if compared to the ratio of the increasing projects. Consequently (Al-Watan, 2005), the lack of good companies that are capable of having the increasing demands will lead to a contracting crisis. This phenomenon has started to surface in the market due to the increasing demands on the projects not only in Muscat but also in other regions and states in the Sultanate that have been witnessing a comprehensive constructional development in different fields. Therefore, the respective parties should encourage the contracting companies and to find the mechanism that helps entering good companies to the market through the facilities and privileges presented to those companies. This is to accelerate the development process in the country taking into consideration the problems that the contracting companies are suffering from. The problems are numerous and can be summarized as; no national trained staffs to work for the contracting companies and the incapability to commit to Omanize due to the obligation to Omanize certain ratios that results in the unavailability of the trained qualified cadres and thus, to enable these cadres to work in the contracting sector. Additionally, the terms of the banks and many guarantees asked from the project owner or the contractors and many other conditions. In spite of all that, the contracting and construction companies managed to be present in the market powerfully through carrying out several different projects though the demands on the projects are high.

Project Management and Its Solutions

In developing countries the implementation of PM tools and techniques is still in its early phases of development. The existence of several social, cultural, political, and financial problems leads to poor management performance. Therefore, the strategy for implementing PM in developing countries must be consistent with the cultural and characteristics of the particular society and configuration of its economic, political and administrative systems. (Stuckenbruck and Asghar, 1987) presented general guidelines that could help developing countries to more effectively implement and use PM. Also, (Muspratt, 1987) gave a full discussion on the conditions affecting projects in less developed countries. The development of PM in one of the developing countries is presented by (Codas, 1987). Elements of successful PM are presented by (Cash and Roberts, 1992), and several techniques on evaluating the project success are discussed by (Dennis, 1988). The UK

Association of Project Management (APM) have produced a UK Project Management Body of Knowledge (1995) which also provides a definition for project management as: The planning, organization, monitoring and control of all aspects of a project and the motivation of all involved to achieve the project objectives safely and within agreed time, cost and performance criteria.

The British Standard for project management BS60794 (1996) defined project management as: The planning, monitoring and control of all aspects of a project and the motivation of all those involved in it to achieve the project objectives on time and to the specified cost, quality and performance. The concept of project success is developed to set criteria and standards by which project managers can complete projects with the most favorable outcomes. Project success means different things to different people. The criteria of project success are constantly enriched.

Research Method

This study has several steps as follows: i) Understanding the nature of problem to be studied in the Sultanate of Oman, i.e. in the construction industry, ii) Review the literature to understand how others have approached the problem, iii) Surveying the clients and project managers with the help of questionnaires, iv) Analyze data appropriate to the problem, and v) Draw conclusions and suggestions. The scope of the data collection is to investigate the shortcomings, difficulties and limitations encountered by the project management system implementation at government projects the project life cycle. The respondents are the personnel involved in the government projects in the Sultanate of Oman; also the Project Management Departments in every Ministry ranging from the maintenance department and development of the state's infrastructure to preservation and construction of modern and historic buildings which are responsible for managing the study, design and construction of the state's construction projects. The questionnaires are prepared based on the characteristics of project management system. Among others, these include: a) Need for project management system, b) Appointing a Project manager, c) Project management services requirements, and d) Project management performance. The specific questions/statements in the questionnaires include the following: **1) Obstacles**

associated with Implementing Project Management: a) Owner's awareness about PM system, b) End user requirements, c) A/E's awareness about PM system, d) Authority delegated to PM/CM, e) Contractor's awareness about PM system, f) Political impacts, g) Owner's administration system, h) Changes to project's scope and plan, and i) Statutory authorities' procedure; **2) Obstacles associated with Implementing Project Management:** a) Owner's awareness about PM system, b) End user requirements, c) A/E's awareness about PM system, d) Authority delegated to PM/CM, e) Contractor's awareness about PM system, f) Political impacts, g) Owner's administration system, h) Changes to project's scope and plan, and i) Statutory authorities' procedure; **3) Advantages of implementing PM/CM system**: a) Cost control, b) Minimize change/variation orders, c) Time control, d) Minimize claims, e) Quality control, and f) Technology transfer. The next section discusses the analysis and the findings of the data gathered from the survey.

RESEARCH FINDINGS

Table 1.0 shows the percentage of responses from the respondents.

Table 1.0: The respondents

	Clients	Project Managers
Sample size	75	50
No. of respondents	28	12
Percentage of respondents	7	24

Total of respondents: 40

Discussion of Findings

The survey found that 66% of the project managers agreed on the importance of obtaining all necessary approvals and permits required from the statutory authorities, while 33 % of the project managers guarantee the existence of power/water supply on site at time of testing and handling over of the project. Most of the project managers (66%) believed that it is important to have the necessary and properly trained manpower to manage, operate and maintain the project at the time of handling. 33 % of the project managers perceived that

identifying and coordinating the end user requirement as very important in all projects. Finally, 66 % of the project managers believed that that getting final approval for project site/routes before the tender stage is utmost important. It is summarized that the followings are the main issues of concern among project managers in the Sultanate of Oman, these include: a) Obtaining all necessary approvals and permits required from the statutory authorities, b) Having the necessary and properly trained manpower to manage, operate and maintain the project at the time of handling, and c) getting final approval for project site / routes before tender stage

Obstacles associated with implementing PM

The respondents were required to indicate the importance of the nine major obstacles associated with implementing PM by selecting only one of the following options: very high, high, moderate, low and very low.

The results from the survey found the following factors from the owner's point of view that might have negative effects on the management of every project. The followings are the ranking according to their degree of influence: a) Changes to project scope and plans, b) Lack of owner's awareness about PM system, c) Approval procedures adopted by statutory authorities, d) Lack of contractors awareness about PM system, e) Exiting owner's administration system, and f) Endless and continuous end user's requirements

However, according to the project managers who participated in this survey, the prime obstacle associated with the implementation of the system are as follows: a) Lack of owner's awareness about Project Management system, b) Approval procedures adopted by statutory authorities, c) Endless and continuous end user's requirements, d) Lack of authorities delegated to the Project Management, and e) Lack of awareness of Project Management system.

Advantages of implementing the PM system

The analysis of the questionnaires indicated that 93 % of the owners and 100 % the PM observed positive control on the cost, time and quality of their projects. Most of all respondents confirmed the advantage of technology transfer gained through implementing the system. 72 % of the owners confirmed the advantage of minimizing the variation orders but this contrary with the 50 % of the project managers do not know how to minimize the variation orders. 29 % of the owners were unsure as to how to minimize the claim but 67 % of the project managers were very optimistic on the advantage of minimizing claim. On the basis of the findings of this research, the following broad conclusions may be drawn. Most of the owners in the government sectors responded that the Project Management system is needed for a project when the following conditions exist: a) the cost ≤Riyal - O 100 thousand, b) a new technology is required, c) urgent completion is required, and d) the owner does not have the technical manpower

However, on the average, the clients believe that the project management system should be selected after the analysis of the project's nature and type. The rest of the clients believe that the form should be selected after the analysis of the governmental regulations, procedures and rules. On the appointment of project manager, the results showed that less than half of the clients selected project management firms through a pre-qualification procedure on an open invitation, and another less than half selected well known project managers firms and recommended by other ministries and agencies.

Regarding project management services, majority of the clients believe that these services should be individually customized for each project, while less than half of the total respondents believe that such services should be standardized and unified for all government projects or for individual departments separately.

As for the ratings of project managers' performance, the rating is average. However, several limitations encountered by implementing the system were amplified. One of the most significant is the changes to project scope and plans, lack of owner's awareness about project management system, and approval procedure adopted by the statutory authorities, also, lack of contractor's awareness about project management systems. Thus, to ensure

good project managers performance, Barrie and Paulson (1992) say that team should work together from the inception of the design to project completion, with the common objective being to keep the owner's interests intact.

The project managers confirmed the existence of lack of owner's awareness about Project Management system, approval procedure adopted by statutory authorities. These points are very paramount for the Project Management system, because the project managers should obtain all necessary approvals and permits from the statutory authorities and acquire the necessary and properly trained manpower to manage, operate and maintain the project at the time of handling.

This study further found that delay in the surveyed projects is related to numerous causes are follows: a) variation orders and additional works, b) delay in approval of details space and drawing by owner, c) unqualified contractors, d) weak coordination among owner, project managers, architects, engineers and contractor, and e) existing procedures to approve variation orders and time. These findings were consistent with the statement of Abdulla and Hussien (2002) that successful exucution of construction project and keeping them within estimated cost and prescribed schedules depend on a methodology that requires sound engineering judgment.

Variation orders have a high cost implication in the surveyed projects. Their negative impact on the schedule of these projects is also realized. The reasons for which these variations are initiated encompass: a) end user's requirements, b) achieving improved quality and performance, and c) improving reliability and maintainability

The advantages gained from the project management system were realized from this survey. Better control of project cost, time and quality, in addition to technology transfer are the most prominent.

CONCLUSIONS AND RECOMMENDATIONS

This study presents the problems of the implementation of project management system in the construction industry of the Sultanate of Oman. This study also presented the

perceptions toward project management system from the clients and project managers' point of view in the Sultanate of Oman's construction industry.

The main findings of the study revealed that the perceptual dimension of contemporary project clients should be exposed to the importance of project management. Among others, these include the selection of project managers, procurement method, understanding of project nature, and other pre-requisite knowledge to be equipped to project managers and project clients. Failing to fulfill all these requirements will jeopardize all initiative to implement successfully project management system in the Sultanate of Oman especially in the construction industry.

Recommendations

The followings are the suggestions that this study could best generates:

a) The existing rules and regulations, government procedures that are expressed more concisely and coherently are needed. Forming joint committees for each project from the involved statutory and local authorities, owners, administrators and the project team could be a good solution to shorten the time usually needed to obtain the required approvals and permits. In addition, these committees could help in understanding the project's constraints.

b) The selection of contractors' procedures adopted by the Ministries should be reviewed. Better prequalification in addition to fair and reasonable bidders' evaluation will positively improve projects' performance.

c) The end user requirements should always be considered. In the project, the continuous end user's requirements contributed to significant project delay, and to more than half of the cost increase. It is particularly important that these requirements be closely coordinated by the owner in the early phases of the project. However, the clients should exert more effort to manage these requirements during the construction phase by giving more alternatives to the end users.

d) Continuous training of clients, officers, administrators and technical staff are needed to be familiar with project management techniques, procedures and advantages. For this reason, training services should be considered in the project management agreements. This is particularly important in developing countries so that their engineers will both appreciate and understand project management most effective techniques.

e) Sufficient authority should be delegated to the project managers. Ideal delegation will encourage and permit the project managers to take actions urgently needed.

f) The selection and appointment of project managers procedures should be improved, taking into account their practice and skills. There should be considerable emphasis on clear risk policy and familiarity of the existing procedures at the time of submitting proposals. In addition, there is a real need to have standard contract documents for the project management system.

g) The project managers' appointment should take place as early as the feasibility study and conceptual planning phases of the project life cycle. This early involvement of the project management team will enhance the chances of optimizing the total project life cycle cost, where early decisions have a significant impact.

h) In controlling cost overrun, the architect's and engineers' qualifications and performance standards should always be considered. Moreover, value engineering and design review services are essential for better project cost control.

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