

A Study to Assess Operational Factors to Enhance Project Performance

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Abstract

The objectives are to identify which operational factors have stronger impact for the enhancement of the performance of projects in Saudi Arabian industrial organizations and also to investigate the correlation between the various operational and performance criteria. As there was no data available prior to this study, a descriptive and relational survey was attempted for empirical analysis. Subsequently, the study points out particular areas which need higher priority for performance enhancement in case of low productive project management. The study helps project managers to identify weak criterion of project which needs to be transformed to enhance project performance.

Keywords

Project management, performance assessment

1. Introduction

The identification of performance generating factors in project management is a critical activity and more than that it difficult to choose a framework to access these factors so performance can be evaluated. Many organizations from the corporate world are claiming that they manage the projects very effectively and their performance is outstanding. Despite this, numerous organizations still ignore to invest in evaluating the project management performance, they just emphasize upon the return on investment and profit per unit, the meeting time, cost and specification of the project, but there are inadequacies, such as, a lack of strategic focus, and a failure to provide data on quality, relationships, and the environment. Obviously now as there is competition everywhere and survival of the fittest describe the today's business environment. So good project management performance assessment tools are needed in order to make an organization best of the best. Subsequently, a lot of research work has been increased to reduce waste of scarce resources in the project. As a project manager, it is necessary to enhance and assess the project performance. According to the existing models with some variation according to one's individual need an organization can achieve best project performance [1]. The focus of study is to assess project management performance assessment in applied projects in Saudi Arabia. The objective is to identify which operational factors have stronger impact for the enhancement of the performance of project management in Saudi Arabian industrial organizations. In continuation, it also extends to investigate the correlation between the various operational criteria and performance criteria. The study was conducted on basis level as there was no data available prior to this study. A descriptive and relational survey was first attempted for empirical analysis. Subsequently, the study points out particular areas which need higher priority for performance enhancement in case of low productive project management. The presented study contributes to help Saudi project managers to identify less strengthen criterion of project which needs to be converted into super strengthen criterion to enhance project performance.

This study addresses few assumptions directly and therefore the focus of the study remained around whether project management performance assessment model practices make a difference in the company performance or not. If subsequently, which factors have stronger impact for enhancement of the performance of project management in Saudi Arabia and it is also needed to evaluate that model have enough potential for the assessment of the project management performance.

2. Literature

According to “*A Guide to the Project Management Body of Knowledge, PMI, 2000 Edition*”, “Project management is the application of knowledge, skills, tools, and techniques to a broad range of activities in order to meet the requirements of a particular project”. Every project has to manage four basic constraints; scope, schedule, budget and quality. The success of a project depends on the skills and knowledge of a project manager to take into consideration these constraints and develop the plans and processes to keep them in balance.

Project management has evolved over the past couple decades as both researchers and practitioners have attempted to identify the causes of project failure and the various factors that lead to success. Standards have been developed throughout the world that attempt to codify what has been observed in this on-going research and practice [2]. Such standards have been developed by the Project Management Institute [3], the Association for Project Management [4], the Australian Institute of Project Management [5], and the International Project Management Association [6], as well as others. In attempting to understand the causes of project failure, researchers have explored numerous dimensions of PM, including how projects are done as well as the internal and external context in which projects are executed. It is evident from literature that the researchers had focused on identifying critical success factors (CSFs) for projects [7]. More recently, researchers have begun to address the use of specific project assessment methods. Both perspectives are important, and are reflected in the various sets of standards that are currently deployed globally and presented project evaluation using expert system [8]. The case study is related to the ministry of science and technology of the republic of Slovenia. There is development of a project performance monitoring system (PPMS) by using web-based approach [9], which aims to assist project managers in exercising a project control. Literature presents a systematic approach for evaluation of the project during the project life at any point of the project stage and explains correlation between the evaluations of the project and the results obtained from traditional project in progress [10]. It also discusses the difficulty in evaluation of the projects because of the presence of a large number of performance indicators [11].

To start with the study, it is decided to set the objectives of study, followed by the collection of required data using the survey. Subsequently the collected information is fed to assessment model on hand and the proper data analysis is done. The details of these are presented in the following sections.

3. Objective of Study

There are many aspects to assess the performance of the project (in terms of cost, time and quality and risk, etc.). The European Foundation for Quality Management (EFQM) developed a quality assessment model as shown in Figure 1. The model was built for assessment of project management performance that help an organization to achieve best project performance with some variation according to one's own needs of organization. The objective of this study is “to find out relationship and impact of leadership, staff, resources, organization strategies and processes on project management performance”.

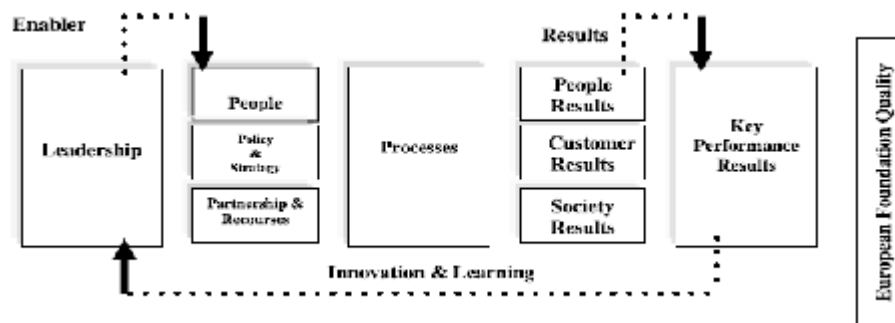


Figure 1 Model for assessment of project management performance

4. Data Collection

It was decided to collect the response of industry practitioners/project managers for the study using a survey. The survey was distributed via email and one to one interview. We collected responses from the listed organizations in

Kingdom of Saudi Arabia. To speed up the data compilation, personal one to one interviewing method was used. As a result, the response rate was getting quicker with high quality, Response was collected from 11 organizations. Descriptive survey was sketched for providing a picture of the ongoing matters and relational surveys are developed for empirical analysis. The survey questionnaires developed consisted of 5 scale point, where 5 for strongly agree and 1 for strongly disagree. Many times, it happened that the managers were not clear about the terminologies used in the questionnaire but this matter was solved through detailed explanation and by one to one discussion. Industry response rate was good enough to represent the sample.

Respondents have held their current position for an average of 3.2 years and have been with organizations for an average of 5.5 years. The majority of respondents are male. The respondents are not constant constituent of the project; one may work simultaneously with several projects. The total number of respondents was 115. The Table 1 shows the profile of organization and the respective number of respondents, while Table 2 represents their experience pattern.

Table 1: Business sector, Number of organizations and Number of Respondents

Business sector	Number of organizations	Number of Respondents
Communication	1	11
Construction	5	28
Chemicals/energy	3	45
Service	2	31
Total	11	115

Table 2: Experiences of the Respondents

Time in organization (years)	Number of Respondents
More than 5	67
Between 3 to 5	37
Less than 3	11

5. Data Analysis

Using the data collected from the respondents, the statistical analysis is done. Subsequently, the correlation analysis and regression analysis is done. The obtained results are as presented in Tables 3 to 5. From the statistical analysis, the broad observations are made as: It is evident that in Saudi Arabia common languages are shared by all the project team members and the project information clearly visible to all. On other hand there is a weak communications between the project teams that's because they usually don't come together to work in close to each other. It is apparent that the standard procedures help the project staff to improve the project performance. On other hand it is observe that it is important to focus in developing and training the staff by making a training plan which link to career and the project requirements. The initiation of the project idea is mostly clear to all the project teams. Also they are good in prioritization, monitoring and control the project, start-up the project in time and defining of benefits, goals, and objectives of the project. But it is needed to develop model to improve project life cycle. There is needed to have a proper strategy for centralized control for the company-wide projects. There is need to reduce the management layers in the project. There is need to have continues improvement in organizational capability, and responsiveness to change. It is seen that the level of disruption to organization is low. On other hand it is important to make a system for personal financial rewards and non-financial rewards, there should be a procedure to study the projects very well to avoid of non-benefit through early cancellation, and focus in stimulating the degree of process innovation. It is also evident that there is a good relationship between project management and internal stakeholder. On other hand the involvement of projects sponsor almost non-existent, they should improve and encouragement the partnerships with existing customers. In short it is clear that project leadership is the most important factor in project management performance but resources are not a major contributory factor of project management performance.

Table 3 presents the correlations for all the variables and Table 4 presents descriptive statistics comprised upon values of standard deviations, means, median, mode, minimum, maximum values and ranges. There is a high

correlation amongst the independent and dependent variables. We follow sequence wise from highly correlated variable to least correlated variables.

- Project management performance (PMP) and Project management staff (PMS), correlation is 0.85. Mean of the PMS is 3.3, whereas standard deviation is 1.2, which shows that PMP and PMS have strongest correlation.
- While Project management performance PMP and Project management life cycle process management (PMLC), correlation is 0.82. Mean of the PLC is 3.3, whereas standard deviation is 1.
- Between project management performance (PMP) and Project management policy and strategy (PMPS), correlations 0.80. Mean of the PMPS is 3.2, whereas standard deviation is 1.1.
- Comparing project management performance (PMP) and Project management key performance indicators (PMKPIs), correlation is 0.76. Mean of the KPIs is 3, whereas standard deviation is 1.1.
- But in Project management performance (PMP) and project management leadership (PML), correlation is 0.72. Mean of the PML is 3.72, whereas standard deviation is 1.1.
- And last but not the least in project management performance (PMP) and Project management partnership and resources (PMPR), correlation is 0.43. Mean of the PR is 2.7, whereas standard deviation is 1.2.

Table 3: Correlation of Variables

	PMP	PML	PMS	PMPS	PMPR	PMLC	PMKPIs
PMP	1						
PML	0.72	1					
PMS	0.85	0.6	1				
PMPS	0.80	0.6	0.59	1			
PMPR	0.43	-0.004	0.33	0.21	1		
PMLC	0.82	0.57	0.69	0.65	0.06	1	
PMKPIs	0.80	0.51	0.55	0.58	0.10	0.79	1

Table 4: descriptive statistics mean and standard deviation for all variables

Variables /Descriptive Statistics	Mean	S.D	CV	Mode	Range	Minimum	Maximum	Count
PMP	3.32	0.77	0.23	3.41	3.47	1.47	4.95	115
PML	3.71	1.08	0.29	4	4	1	5	115
PMS	3.33	1.16	0.35	3.16	4	1	5	115
PMPS	3.24	1.09	0.33	3.28	4	1	5	115
PMPR	2.74	1.25	0.45	2.6	4	1	5	115
PMLC	3.57	0.99	0.27	3.87	4	1	5	115
PMKPIs	3.32	1.03	0.31	3.5	3.5	1	5	115

And the correlations between the variables are as:

- o Coefficient of correlation between Project management staff (PMS) and Project management life cycle management (PMLC) process is 0.67; the results show that the PMS and PMLC have strong association with each other.
- o Correlation between Project management staff (PMS) and Project management leadership (PML) is 0.6, which indicates that they have very good impact upon each other.
- o Coefficient of correlation between Project management staff (PMS) and Project management policy and strategy (PMPS) is 0.59, which also show there strong association.
- o Coefficient of correlation between Project management staff (PMS) and Project management key performance indicators (PMKPIs) is 0.55. The results show that both of them strongly related with each other.
- o Correlation between Project management staff (PMS) and Project management partnership and resources (PMPR) is 0.33, which indicate there association with each other.

Table 5 shows the regression outcomes. From the regression analysis one can say that by putting an effort of 1 unit for project staff the project performance will increase by 0.75 units which means the variable PMS is having strong impact on project performance. Similarly putting an effort of 1 unit to improve the process management the project performance will increase by 0.67 units in Saudi Arabia. Likewise if 1 unit of effort in planning right policy and strategies there is affect 0.64 units on project performance.

Table 5: Regression analysis

Variable	Adjusted R-square	Coefficients
PMS	0.75	1.504
PMLC	0.67	0.992
PMPS	0.64	1.194
PMKPIs	0.59	1.0831
PML	0.52	1.403
PMPR	0.18	2.602

6. Conclusion

The survey results divulge that the deployment of project management performance evaluation model has positive and significant impact over project management performance. Results produced through analysis shows that all criteria have significant association with project performance. Secondly leadership has highest impact over the project performance. Project life cycle have positive impact over project performance. The policies and strategies have great deal of impact over the project performance.

This study pointed out particular areas which needs higher priority for performance enhancement in case of low productive project management. This research contribution is helpful for project managers to identify less strengthen quotient of project which needs to be converted in to super strengthen by professional effective practices or through capitalistic approach with further financing.

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