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Influence of Project Management on Organizational Efficiency and Effectiveness: Empirical Study on UAE Private Sector

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ABSTRACT: The efficiency and effectiveness of a project decides its success or failure of an organization. Hence, project management is considered as a tool or method to direct the resources used in achieving direct, complex, and one-time task within time, cost, and quality limit. Therefore, the main objective of this study is to evaluate the influence of Project Management on the organizational Efficiency and Effectiveness in the context Fabco Engineering in the UAE. The present study adopts quantitative research design in its quest to achieve a credible study. As such, questionnaire was developed and used to elicit the respondents' opinion on the effects of project management on the UAE public sector efficiency and effectiveness. 220 usable responses were analyzed using SPSS and PLS SEM-VB was employed to assess the research model. Simple random sampling technique was adopted to gather the required quantitative data. Based on the findings in relation to this objective, the study concluded that the results indicated that project management has a significant and positive impact on organizational efficiency and effectiveness. Results would give insights for Fabco Engineering.

Keywords: Project management; organizational efficiency; organizational effectiveness; UAE.

I. INTRODUCTION

Past years have witnessed increasing attention placed on project management among researcher circles in the organizational theory field. Some researchers stated that project management is one of the top researched and theorized topics in the management field. Numerous indicators in the global market aid in better apprehension of the UAE's position in comparison with the measures formulated as per the international standard [1-7].Within this interest field, training of project managers should be considered when creating project structures, life-cycles and identifying critical success factors.

In the Fujairah Asia Power Company (FAPCO) context, PM implementation is still at its infancy as they are implemented not for the sole purpose of enhancing performance. Also, FAPCO annual reports indicated that cost reduction strategy is not implemented clearly, which shows that there is a necessity to adopt a strategy of efficiency and effectiveness to improve best practices implementation like PM for the better development of the organizations' entire performance.

In the current study, the key objective is to examine the influence of project management on the organizational efficiency and effectiveness in the context of Fabco Engineering in the UAE. The findings are also expected to contribute to the enhancement of FAPCO competitiveness and abilities and to open the way for market opportunities in the hopes of improving and developing business and the country's economy.

II. LITERATURE REVIEW

A. Organizational Efficiency and Effectiveness

Both effectiveness and efficiency are two common organizational performance measures that may appear synonymous to each other but yet, each of them has their distinctive meanings. Nevertheless, effectiveness is mostly utilized by organizations for performance assessment, with a specific focus on achieving mission, vision and goals. In most contemporary organizations, adopting technology utilizes ICT for maintaining records as well as filling up the forms. Moreover it is the technology that is implemented for various activities like identifying, accumulating, analyzing, measuring, preparing, interpreting, and communicating information that is further utilized by the management to devise new plans [8-10]. Some studies have also highlighted that ICT is effectively used in proper evaluation and control of an institution as well as proper accountability of their resources [8, 11, 12]. It is used in evaluating and controlling within an organization and to assure appropriate use and accountability for their resources [8, 11, 12]. Other organizations evaluate their performance based on efficiency, which refers to the optimal resources use to realize the expected results. Effectiveness addresses the objectives of the organizational policies or the level to which the organization accomplishes its goals. Meanwhile, organizational efficiency enhances the performance of the entity in light of management, productivity, quality and profitability.The question arises as to why some organizations are effective without being inefficient, while others are efficient without being effective.

B. Project Management

Studies have referred to project management as a collection of tools and method applications to direct resources use in achieving direct, complex and one-time task within time, cost and quality limit [13, 14]. It is noteworthy that the efficient and effective features of a project decide its success or failure. Accomplishing the three limitations of project management triangle (time, cost, quality), illustrates the achievement of the successful short-term project (efficiency), while the achievement of end-users satisfaction via satisfying the

end user's needs reflects the achievement of the successful long-term project (effectiveness). Hence, the hypotheses are

H1: Project management has a positive effect on organizational efficiency.

H2: Project management has a positive effect on organizational effectiveness.

III. RESEARCH METHODOLOGY

A. Proposed Conceptual Framework

The resource-based view theory (RBV) that was first proposed by Wernerfelt [15] is suitable as the underpinning theory of the study framework. Literature is rife with gaps on the relationships among the variables, which calls for more in-depth examination of the proposed relationships. Hence, in this study, the suggested framework is formulated on the basis of the recent research works and accordingly, the direct association between the project management and performance of an organization is decided (Fig. 1).

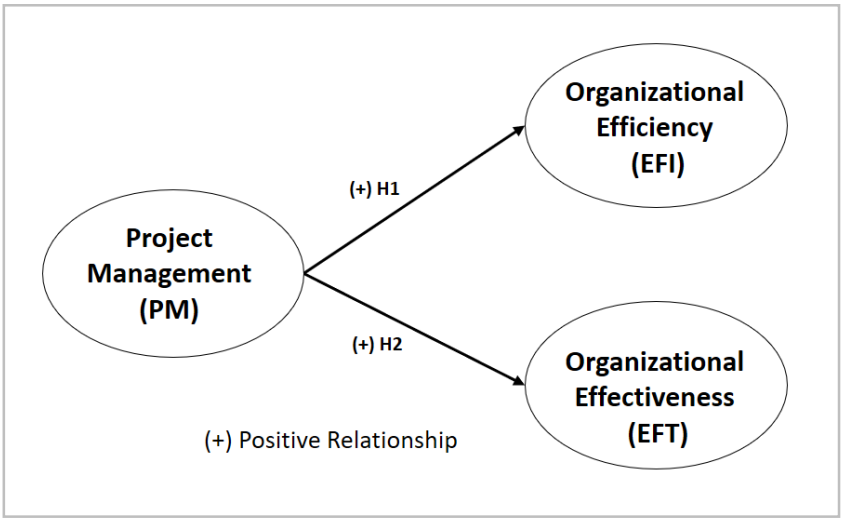


Fig. 1. The proposed conceptual framework.

B. Research Instrument formulation and accumulation of Data

The survey questionnaire, being the primary data tool, collected data over a period span of three months (August 2018-October 2018), with the final data samples numbering 220 obtained from the FAPCO sections and branches.The study employed random sampling to select FAPCO sections as based on Creswell [16] recommendation. The obtained quantitative data from the questionnaire were exposed to different analytical methods. Data analysis was conducted using the SPSS, version 23.0 and Smart PLS 3.0. The data analysis methods were chosen based on the study-related questionnaires and the characteristics of the variables. The measurement of the variables is performed by using Likert Scale [17-19].

IV. ANALYSIS OF DATA AND STUDY OUTCOMES

PLS SEM-VB (Structural Equation Modelling-Variance Based) was employed to evaluate the suggested research model by implementing SmartPLS 3.0 software [20]. Moreover, a different analytical technique was implemented that constituted two phases, namely measurement model analysis and structural model analysis [21-24].

A. Descriptive analysis

The mean and SD of the study variables are presented in Table 1. The measurement were in accordance with Likert's scale with significant variables. Project management scores the highest with mean 4.038 out of 5.0, with a standard deviation of 0.788.

B. Measurement Model Assessment

The measurement model was examined by implementing the reliability and validity features of the constructs (convergent and discriminant validities). The reliability of each core variable in the measurement model (construct reliability) was evaluated by using the individual Cronbach's alpha coefficients. The Cronbach's alpha coefficient values were recorded in between 0.832 to 0.929 [25]. The composite reliability (CR) values were in between 0.888 to 0.942, which exceeded 0.7 (Table 1) [26, 27].

Analysis of indicator reliability was conducted by utilizing factor loadings. When the related indicators are very similar, this is reflected in the construct and signified by the construct's high loadings [24]. As per Hair et al. [25], the exceeding of values beyond 0.70 suggests substantial factor loadings. Table 1 displays that all items in this research had factor loadings greater than the suggested value.

AVE (average variance extracted) was employed in this study to analyze convergent validity, which represents the degree to which a measure is correlated positively with the same construct's other measures. All the AVE values ranged from 0.665 and 0.697, which went beyond the proposed value of 0.50 [25]. Thus, all constructs have complied with the convergent validity acceptably, as shown in Table 1.

The degree to which the articles distinguish among concepts or measure different constructs is demonstrated by discriminant validity. Fornell-Larcker was employed to analyze the measurement model's discriminant validity. The bold variables in the table denote the square root value of the AVE that is more than the corresponding values, indicating a strong correlation between the variables and their respective indicators (Table 2) [28, 29]. The exogenous constructs

showed a correlation value <0.85, and thus the better discriminatory validity is satisfied [30-33].

Table 1: Measurement model assessment.

Constructs	Item	Loading (> 0.7)	M	SD	α (> 0.7)	CR (> 0.7)	AVE (> 0.5)
Project Management (PM)	PM1 PM2 PM3 PM4 PM5 PM6 PM7 PM8	0.780 0.827 0.858 0.783 0.806 0.817 0.848 0.825	4.038	0.788	0.929	0.942	0.670
Organizational Efficiency (EFI)	EFI1 EFI2 EFI3 EFI4	0.812 0.859 0.847 0.820	3.915	0.843	0.855	0.902	0.697
Organizational Effectiveness (EFT)	EFT1 EFT2 EFT3 EFT4	0.822 0.801 0.801 0.836	3.989	0.758	0.832	0.888	0.665

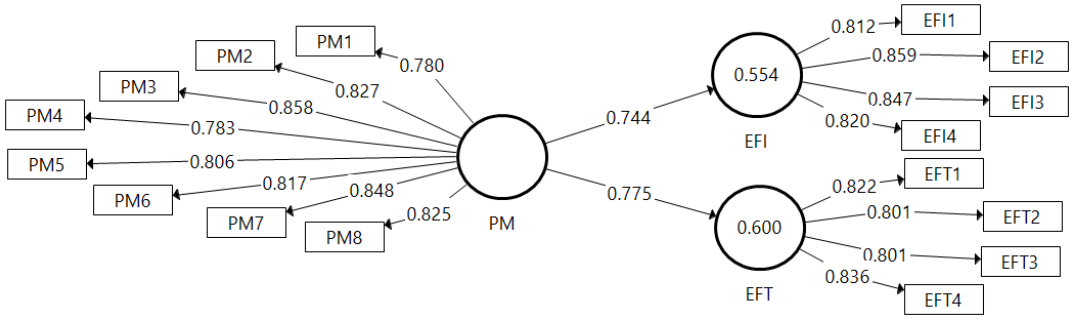
Note: M = Mean; SD = Standard Deviation, α = Cronbach's alpha; CR = Composite Reliability, AVE = Average Variance Extracted.
Key: PM: project management, EFI: organizational efficiency, EFT: organizational effectiveness.

Table 2: Fornell-Larcker criterion.

	EFI	*EFT*	*PM*
EFI	**0.835**		
EFT	0.778	**0.815**	
PM	0.744	0.775	**0.819**

Note: Diagonals represent the square root of the average variance extracted while the other entries represent the correlations.
Key: PM: project management, EFI: organizational efficiency, EFT: organizational effectiveness

C. Structural Model Assessment



Key: PM: project management, EFI: organizational efficiency, EFT: organizational effectiveness

Fig. 2. PLS algorithm results.

Table 3: Structural path analysis result.

Hypothesis	Relationship	Std Beta	Std Error	t-value	p-value	Decision	R^2
H1	PM→EFI	0.744	0.040	18.613	0.000	Supported	0.55
H2	PM→EFT	0.775	0.032	24.408	0.000	Supported	0.60

Key: PM: project management, EFI: organizational efficiency, EFT: organizational effectiveness

V. DISCUSSION

The main objective of this study is to examine the influence of project management on the organizational effectiveness and efficiency within Fabco Engineering in the UAE. Two hypotheses were formulated to achieve the general objective namely: project management has a positive effect on the organizational efficiency, and H2, project management has a positive effect on organizational effectiveness.
The first hypothesis was tested to empirically prove it in the context of Fabco Engineering. Results from the structural model was supported with (β = 0.744, t = 18.613, $p < 0.001$) as there is a positive direct impact of the project management on the organizational efficiency. This result was supported previously in the prior studies who also revealed project management has a positive effect on the efficiency of the organization [34]. Thus, H1 was statistically supported.
Moreover, the second hypothesis was also empirically tested and the results for the structural model

assessment showed that there is a positive direct influence of the project management on the effectiveness of the organization within Fabco Engineering in the UAE with (β = 0.775, *t* = 24.408, *p*<0.001). Results of this hypothesis confirmed the positive impact of project management on the organizational effectiveness. Thus, H2 was also supported statistically.

VI. IMPLICATIONS, LIMITATIONS ANDFUTURE DIRECTIONS

Only a few empirical researches have been carried out to investigate the variables effect on the public service sector and thus, this study is an attempt to extend literature, by examining the effect of project management (PM) on the organizational efficiency & effectiveness. In this study, there is a provision of insight into the role that organizational efficiency & effectiveness plays in the organizational strategies implementation processes. From the findings, it is evident that the organizational efficiency & effectiveness support should be the first step to be ensured prior to making any changes in the organization. This is because lack of organizational efficiency & effectiveness may lead to wastage of resources when adopting strategic initiatives. The results are aligned with RBV theory that considers project management as resource that improves the process of the overall organization and the managerial practices.

This study contribution, do not negate the fact that the study has its own limitations that are crucial to results interpretation and drawing of results. One of the limitations is the adopted quantitative research method, which is the survey questionnaire. The respondents to the questionnaire were requested to translate their perceptions on the basis of the items within the instrument based on a 5-point Likert scale. Accordingly, the answers provided by the respondents may have been affected by their biased perceptions of the phenomenon under study. It is thus suggested that future studies of this caliber adopt a mixed research design involving qualitative and quantitative instruments for complementary and accurate results.

VII. CONCLUSION

The findings of this study highlighted the important role of project management to drive and support both organizational effectiveness and efficiency. UAE public service sector should take note of the finding and owners and managers alike along with policy-makers should collaborate together to establish project management practices culture by providing training and education, as well as, incentives to modify the mind-set of employees and their behaviors towards how to achieve outstanding performance.The study findings supported the significant influence of PMP on the organizational effectiveness and efficiency of UAE public service firms. And although these management initiatives originated from the West, they can still be of great value in terms of enhancing and maintaining organizational effectiveness and efficiency in the UAE. Results would give insights for Fabco Engineering and public sector in the UAE to improve the organizational effectiveness and efficiency focusing in PMP.

APPENDIX

Appendix A

Instrument for varibles

Varible	Measure
Project Management (PM)	PM1: Assistance in our company/establishment is received in the form of identifying the appropriate person to manage the project. PM2: Our company develops features of a “projects culture” (i.e. project focus meeting, a common project language”) PM3: There is a procedure in our company to increase project management capability through the development of team members’ abilities. PM4: There is a formal process in our company to evaluate the project management staff. PM5: Project management is successful when it is developed as a formal practice within our company. PM6: The implementation of project management policy & strategy involves major organizational change & obstacles to the change is always recognized and overcome. PM7: There is an open two-way partnership in our company with customers and suppliers during the project span. PM8: The project stakeholders in our company are formally involved in the project execution.
Organizational Efficiency (EFI)	EFI1: My organization has made good use of my knowledge and skills in looking for ways to become more efficient. EFI2: My organization is trying to reduce cost in managing the organization and performing works. EFI3: My organization has conducted business relations with outside customers very promptly. EFI4: It is rare to make big mistakes in my organization when conducting work.
Organizational Effectiveness (EFT)	EFT1: In the past two years, the productivity of my work unit has improved. EFT2: Overall, the quality of work performed by my current coworkers in my immediate work group is high. EFT3: The work performed by my work unit provides the public a worthwhile return on their tax dollars. EFT4: The occurrence of goal attainment is very high in my organization.

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