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The Effectiveness of Project Manager's Strategies in Green Building Construction

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ABSTRACT

This study aims to identify the important strategies that a project manager should utilize, to ensure success in green building construction. The strategies, which adapted by a project manager, may indicate the type of leadership techniques that practiced during the management of green building construction. A questionnaire focusing on the strategies that used by project managers to manage green building construction was distributed. In addition, were analyzed statistically using mean score obtained through SPSS v22.0 software package. The final outcome of the study highlighted the success important strategies that adapted for managing green building construction. The results of this study may assist developers and construction companies in developing the strategies and characteristic skills of project manager's, instability to improve the performance of a project and the construction industry. Another highlight result of the study that project managers would be aware of the influence and effects of leadership techniques on project managing as well as the strategies, which needed for effective green building construction.

Key words: Sustainable urban cities, sustainable development indicators, urban planning

1. INTRODUCTION

Effective leadership project manager is becoming increasingly important in all industries. The formal procedures are required to ascertain the strategies of project managers in the green building management [1]. To meet the current demand of the construction industry, professionals are continuously being trained for leadership positions, the lack of leadership competency can interfere with the effectiveness of project managers as it may affect team performance as well as project delivery [2]. In order for project managers to manage projects effectively, a customized combination of leadership styles should be applied, in most cases; the capability of a project manager to involve all team members in making decisions has a direct impact on team performance.

The green building construction depends on the expertise of professionals. The project manager is the main person reliable for the successful completion of a project within a specified time frame and budget. Project managers require strong project managing strategies in order to complete projects on time, maintain the quality of products and adhere to a strict budget [3]. Nevertheless, limited research has been conducted to analysis the potential effect of project managers' strategies on the success of green building construction. In most cases, only behavioral and organizational issues are the main focus in research studies of project management instead of technical difficulties [4]. Mediocre management strategies in the construction industry may lead to increasing errors and omissions in projects, which their can delay the timely completion of a project and drive up the costs involved [5].

2. APPROACHES TO MANAGER IN GREEN BUILDING CONSTRUCTION

A number of approaches have been used to examine manager theories over the years. A brief review of theories including the trait theory, situational-contingency theory, behavioral theory and transformational theory is presented in this study. [6] Asserted that many fresh manager concepts are borrowed from standard thoughts on manager. This includes the trait theory situational contingency, theory behavioral, theory transactional theory and transformational. There are signs that shared attitude, towards sustainable development is changed. "Green building design" principles led by the architectural community are finding their way' into design practice [7]. The US Green Building Council has recently advanced a rating system for green and sustainable design. "Leadership in Energy & Environmental Design" (LEED) has been used by many institution agencies in its original form or as a modified version. It awards points according to six different categories namely, (1) Sustainable Sites (2) Water Efficiency (3) Energy & Atmosphere (4) Materials & Resources (5) Indoor Environmental Quality (6) Innovation & Design Process.

2.1 Features of Successful Green Building Projects

During the early 90s project, success was linked to performance measures which, were governed by project aims. The success of a project can be evaluated in terms of time, cost, project performance and safety [8]. Claim that a project is successful if certain criteria such as safety economy cost, running-maintenance cost time, and quality to users are fulfilled [9].

Project success can also be considered from different viewpoints of the individual owner developers, contractors, users, the overall public and so on [10] A review of the important literature indicated that different researcher' hypothesis different criteria. Figure 2 shows a comprehensive framework for measuring the success of green construction project.

Figure 1: Consolidated Framework for Features Project Success

3. OBJECTIVES & METHODOLOGY

The aim of this study is to increase the strategies of project manager's in green building construction. Moreover, to abilities and characterize the roles and obligations of project managers, beside outline and create relation between contractual and subcontractors worker's groups. The strategies consist of detailed discussion of green construction processes, which could contribute project managers to employment strategies and skills of green building during the construction stage, which will support the success of high-performance of green building construction. The characteristic of critical success is variable that have an important effect on delivering measurable developments to green building construction.

Organizations and companies look to forecast instrument, which assist them to speed their improvement toward development performance, in addition, to draw a guideline around drawbacks, which might slow or even halt their initiatives of project managers' strategies. Therefore, in order to improve the strategies of project manager's it's essential to define the characteristics of critical success in current project management practices. In order to achieve this, the strategies for project success are essentially vital to be recognized and establish to attain the target of this study. To evaluate these strategies, a questionnaire survey will design to highlight the important characteristics for development performance of green construction. The scope of this study focus on Libya as a case study due to the increase of green building construction. Sets of the survey will be distributed among project managers, architects, engineers, builders and decision makers of construction industry, to identify the critical success characteristics of project management practice in Libya.

A pilot survey will be conduct to test the relevance and comprehensiveness of the survey, the data of a pilot survey will help in modifying the question's design before send it to the defendants in the industry. The expected outcome of this survey can provide a significant acknowledge that will help to improve the current strategies in Libya's construction industry. Another tool that use in this study is an interview that will be conduct to target the main group of design and green building construction players in organizations. Finally, a workshop will manage to debate and discuss the strategies for project success at the end of the study. The workshop will target project managers, in order to gain more inputs on the critical success characteristics of each different organization.

4. RESULTS & DISCUSSION

Evaluation questionnaire was conducted in Tripoli, Libya from 2nd September to 15th October 2017. A total of 7 sustainable eco-friendly building projects as well as 67 participants were involved. Considering the data presented in Figure 2, out of the 67 participants, 53 were colleagues or a team and 14 were venture proprietors and project executives of these activities. A necessary arrangement were made by scholars in order to complete the questionnaire among various participants in the construction industry. The questionnaire included 9 domains for 18 investigations on development of the strategies of the construction manager. Further associations were joined up with different elements as given in figure 3. It demonstrates that 53 of the participants were employed with private organizations while only 4 with government organizations. On the other hand, only 10 of the participants are employed with joint venture business. Thus, there is a more prominent percent of the participants employed with private firms, which might lead to an easy way of influencing them to understand and assist the construction firms.

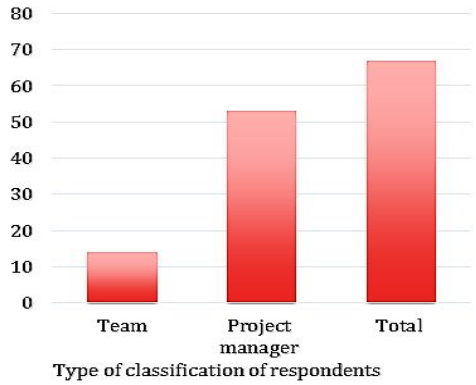

Figure 2: Type of classification of respondents

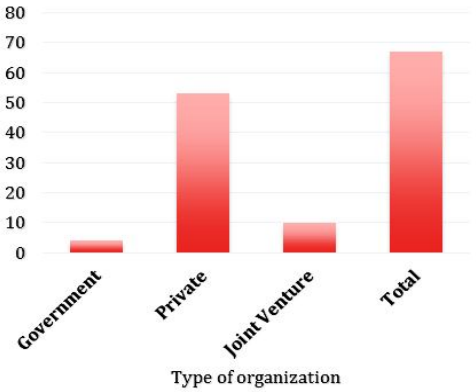

Figure 3: Type of organization

The participants related to the overview had achieved different academic qualifications as mentioned in Figure 4, in which 28 out of 67 candidates have obtained degrees and 8 of them worked as project supervisors. Three out of the rest of the participants are project managers with PhDs, 13 of them are project managers with post-graduate degrees, and there are 23 of them with a diploma. The result is shown in figure 5, it mentions that 25 participants have working experience of 1–5 years. 15 of the other candidates have worked for 6–10 years, while 20 other candidates had been working for the last 11–15 years; lastly, there were 20 of them who have a work experience of 16–20 years.

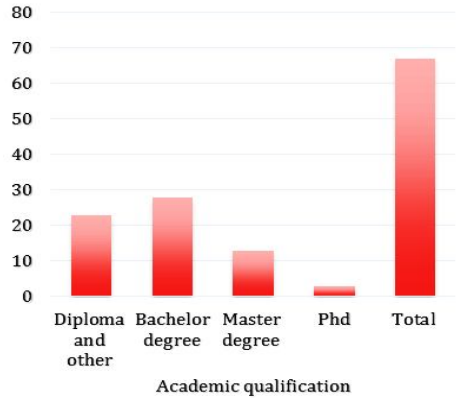

Figure 4: Academic qualification

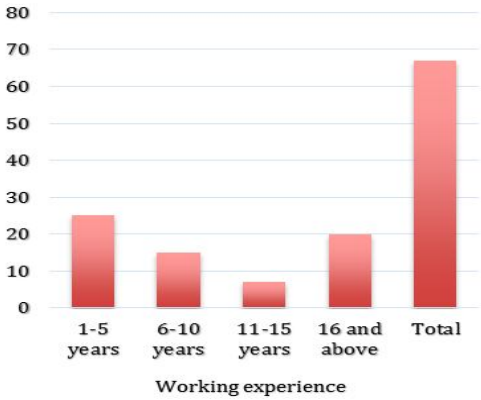

Figure 5: Working experience

Table 1 identified the reaction perspectives as given below. The most significant mean values for the members of the team are common vision (4.79) and the least mean values are for continuous development with value 3.50, group interests had an average value of 3.58 and collaboration had an average value of 3.70. In spite of the fact that they were amongst the lowest, these approaches have likewise facilitated the feasibility of the strategies of the project manager in eco-friendly construction. The findings demonstrate that the view of the team member regarding the project manager's policies might not be very good compared to the project manager's view. The task project managers as well as team members agreed that normal vision is the most vital element in construction managers' strategies for aiding accomplishment of green building projects.

Considering the inquiries given in the questionnaires, the data obtained are linked with the examination objective. The outcome was examined by utilising SPSS version 22. The aim of this questionnaire was to determine the status of the strategies of all the project managers in construction of eco-friendly building.

Table 1: Reaction Perspectives

Characteristics	Questions	Individual mean	Average Mean
Charisma	A) The manager clarify and share the objectives of the construction project to you?	4.12	3.74
	B) The manager ready to receive new strategies in sorting out and overseeing green building construction project?	3.99	
	C) The manager ready to influence the team members to comprehend the usage of the green building construction project?	3.12	
Continuous Development	A) The manager ready to persuade the team members on nonstop in making change particularly their execution?	3.42	3.50
	B) The manager capable willing to offer a path to the old strategy association my work by reception new approach?	3.58	
Shared Responsibility	A) The administrator ready to make obligation of his move in settling on a choice and only occasionally accuse the group?	3.98	3.98

Common Vision	A) The manager able to persuade team members to continue enhancing new compelling approaches to green building construction project	4.79	4.79
Mutual Influence Relation	A) The supervisor request absolution and abstain from offending team members of a disappointment in green building construction projects?	3.80	4.20
	B) The manager able ready to permit colleagues to give criticism on finished activities?	4.60	
Group Interests	A) The manager able to motivate team members to do green building construction project without any pressure?	3.28	3.58
	B) The manager able to share info on project success or project failure?	3.89	
Collaboration	A) The manager capable to collaborate with different non-public companies?	3.98	3.70
	B) Are the employees willing to help?	3.41	
Risk Taking	A) The chief ready to evacuate any impediment emerges in projects?	4.78	4.48
	B) The manager think about the thoughts of the considerable number of workers on an equivalent premise?	4.91	
	C) The manager able to acknowledge new thoughts of development to make the activities more fruitful?	3.77	
Empowerment-Enabling Others To Act	A) The manager able to get involvement of the team members in planning stage?	4.51	4.41
	B) The manager able to enable the colleagues with the duty regarding work arrangement, support, and control for green building construction project?	4.31	

5. CONCLUSION

A project manager who gains the trust of his team members and gets them to cooperate is a person who applies successful strategies in green building construction. The team members of a project should work together and share information to accomplish project requirements. A project manager communicates using both language and character, which includes attitude, behavior, and personality. He or she allows team members to assume responsibility for their work and shares a vision with the team members in order to enhance the formal flow of information in all directions and obtain successful feedback. In other words, project managers who allow people to take responsibility for their own work will gain more from their team members. The results indicated that a people-oriented approach towards the management of green building construction was effective. The primary suggestion for future research is to expand the number of respondents with the goal that information gathered in future will be clearer and more reliable for the researcher, project managers, and team members [11].

Results from this study are contributed to assist project manager practitioners to achieve specific green building construction. Moreover, to define the strategies of project manager that provides a forecasting tool to enable parties to rapidly assess of the successful project from their viewpoint. This study also elaborated a project manager strategy for determining critical success characteristics in green building construction practices, based on nine characteristics for success strategies for a project manager, which should be taken into consideration during the project manager phases from inception until project completion.

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