Success Factors in Projects

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Abstract. The literature of project success is very wide one. Various articles focus on the evolution of the understanding of project success. Most of the projects we hear of in media are either over budget, late or are simply not good enough and still different lobbies of people claim that those projects have been successful. Neither the practitioners nor the academicians seem to agree on what constitutes project success. It seems to be a rather elusive concept. This paper attempts to put forth the points of views of different researchers in this field and focuses primarily on the factors that affect the project outcome regardless of the type of project. Two sets of factors contributed to successful outcome of a project: the macro and micro factors. A set of macro includes the realm of the owner, while micro factors fall in construction domain. Other factors were grouped into four areas: factors related to: project, project manager and team, organization, and the external environment. More factors were investigated by other researchers, factors including applied methods, individuals in projects, and organizational context. Therefore, every party in the project has its own perception thus forming different criteria of project success. These differences of perception explain the reason why the same project could be considered a success by one and unsuccessful by another.

1. Introduction

The word project is derived from Latin where ”pro” means ”forward” and ”jacere” means ”throw”. Thus, the original meaning of project is something that in a figurative sense has been thrown forward [1], the term project is defined: ‘A unique set of co-ordinated activities, with definite starting and finishing points, undertaken by an individual or organization to meet specific objectives within defined schedule, cost and performance parameters. Since 1960s, the project management analysts have been attempting to discover which factors lead to project success. A construction project is usually considered successful if it’s achieved on time, within the budgeted cost and at prescribed standards. However, problems may arise leading to more objectives other than cost, time, and quality; where there are some projects which have been completed in time and within budget but wasn’t considered as successful. The world’s leading information technology research and advisory company, organizations should accept the increased risk to achieve the desired return and to accept failure and move on [22]. Since the organizations have increased focus on cost management, they should embrace the failure. In addition, the necessary causes of failure: Unsuitable definition of project scope, lack of communication, and inappropriate management of project. The study also examined the significance...
of organizational characteristics such as applied project management methodology and tools. Considering the defined aims of the paper, there is a need for providing a review of the literature on the understanding of project, the phenomenon of project success.

Success in construction projects is a global phenomenon. Factors leading to project success have been investigated in many regions and have been extensively explained in the literature over the years. Part of these studies will be described below. This paper focuses primarily on the factors that affect the project outcome regardless of the type of project.

2. Literature Review

In this area, there is a broad divergence of views; the only consensus seems to be the disagreement on what form 'project progress'. An interesting case of the various perspective has been provided: An architect may consider success in terms of aesthetic appearance, an engineer in terms of technical competence, an accountant in terms of dollars spent under budget, a human resources manager in terms of employee satisfaction, and chief executive officers rate their success in the stock market [9]. Hence, There’s no exact success in project and there’s only a perceived one.

Project success is the evaluation of overall goals of the project; however, project management success is the evaluation of the classical measures of achievement against budget, time, and quality [23]. The Project success handle with concerns for performance internally or externally for short and long period. A project can be defined as the accomplishment of a certain target, which includes a series of tasks that require resources [20]. However, project management can be considered as the procedure of controlling the achievement of the project targets. The objective of project management involves determining the requirement of work, preparing the execution of the work, controlling the progress of the activities, and adjusting the deviations from the plan. Originally these two descriptions may find to be overlap. In fact, its barely exaggerate that project management success is one of the aspects of project success since the latter is unattainable without the former [20].

Other distinction is between success criteria (the standards by which failure or success of business will be evaluated) and success factors (those inputs that contribute directly or indirectly to success). Where the criteria of project success are the group of standards by which the success of project can be reviewed. However, the factors for project success are the group of states, or effects which lead to project outcomes [20]. These effective forces can facilitate or delay the success of project. They lead to failure or achievement, but don’t create the basis of judgement. An example to explain the differences between criteria and factors is by using a high school student who want to achieve a degree in a university. To get the degree, the student must get accepted in registration and graduate at the end. Obviously, these two sets of conditions are the criteria. Each criterion has its condition, for admission criteria: entrance examination, policy, fees, duration, etc. For awarding the degree: passing marks, projects, completing these two criteria mean success in awarding the degree. However, failure to satisfy any of the criteria would result in losing the degree. Conversely, factors affecting the admission and graduation criteria could consist of age, academic ability, distractions and so on. These factors could be important, yet they don’t decide the failure or success of achieving the degree. The critical success factors were introduced and described as key factors required to reach goals and it was highlighted in the book benchmarking in construction by McCabe, Steven, that they are crucial for managers to enhance their organization [2].

Project success became a complicated phenomenon, and can be treated from input and output perspective [8]. The input-oriented perspective evaluates the factors contributing to success using critical success factors; while the output-oriented perspective assess the success by means of project criteria. The evaluation of success, cost and quality is for sure an essential part of project control, and when trying to evaluate the success, one must distinguish between project success and the success of project management effort as both are related but may be very different [23]. Most project management literature advocates that project management has three major objectives: a project must be managed on time, within budget and to quality/performance specifications. There are examples of projects which didn’t met the required criteria (time, budget, quality,) and are nevertheless considered
successful projects. A large project was held in Kuala Lumpur and it has to be completed in 12 months however what happened next is that there was extension of time and additional budget [13]. Since opening of this project, it has shown to be very popular. This case study shows doubts: the developer and the contractor have lost and from their point of view the project has failed. On the other hand, the stakeholders’ perception is different where the project was a big success. Therefore, every party in the project has its own perception thus forming different criteria of project success. These differences of perception explain the reason why the same project could be considered a success by one and unsuccessful by another.

There are two sets of factors that conclude the successful outcome of a project: the macro and micro factors [22]. A set of macro includes the realm of the owner, while micro factors fall in construction domain. A framework was carried out for the macro viewpoint of project success [13]. And two set of conditions were illustrated: completion criteria and satisfaction criteria. Those criteria are also affected by sets of factors. Normally, the stakeholders, the owner, and public will look at project success from macro viewpoint. The first criteria: The completion is influenced by the factors like weather, supervision etc... while the second criteria: satisfaction is affected by location, prestige, cost. The users are more demanding on the satisfaction criterion over the completion one. An example is an evidence about this user’s point of view is the famous Sydney Opera house. This construction project needed 15 years (from 1958 to 1973) and additional budget to build, today it represents the symbol of Sydney and engineering masterpiece. In addition, another framework for micro viewpoint of project success is conducted in the study where the completion criteria are the set for deciding the project success. Generally, the contractor will determine the success of project from the micro viewpoint. In this type of viewpoint, the risk environment, finance, and human are the factors affecting the completion criteria [13].

The primary criteria of project success are determined by cost, time and quality that called iron triangle. The variation of project success has results into developed user’s necessity, customers’ requirement, and environment. There were four suggested dimensions of success: business success, planning for future, project effectiveness and impact on customer [20].

The reasons affecting the performance of the project were also studied: the factors of iron triangle, management of both risk and human resource, in addition to communication management [23]. Conceptual framework was recommended for the success of the project by recognizing schedule accomplishment, budget, satisfaction of owner and public, and profitability.

A research was prepared to identify the critical success/failure factors in projects. The factors were grouped into four areas: factors related to: project, project manager and team, organization, and the external environment [5]. The first area was characterized by: the size of project, value of it, and the life cycle. The factors related to project manager and team can affect the project outcome where the project manager’s commitment become most critical during different stages of the project. Selecting a project manager is significant for successful project, where he/she should have the necessary technical and administrative skills. Moreover, the authors found that factors like manager and team members have impact on client satisfaction where skills like marketing can affect the stakeholder’s attitude towards the project outcome [5]. The third area studied by the same article includes factors related to the organization; the top management support usually supervises the project manager. And the full support from the top management facilitates and achieve the strategies for the completion of the project. This mainly happen in projects with matrix organizational forms and requires negotiating skills. The last factor considered by the authors is linked to external environment such as political, economical and social for example: the weather, government restrictions and guidelines. The curiosity in project success factors was growing until was a hypothesis that the factors of success must stand alone because of the variety of projects in prioritization of project goals, the nature of organization and the environmental changes.

The idea of CFS were carried out and proposed four factors: teamwork enhancing policy, comprehensive facility team, adequate knowledge in handling different aspects of facilities, and information optimization in the planning and design stage [21]. The identified factors that considered
critical to a large-scale construction project in Thailand are comprehensive, competence, commitment, and communication. Having argued the factors alone, the project wouldn’t be successful without satisfying the success criteria. Hence, the project success tends to be more accomplished with both project success factors, and the success criteria considered as whole.

A designed survey was involved in Australian institute of project management (AIPM), representing managers and users in Australia. Fifteen critical success factors were determined by the respondents [3]. The most identified CSF was the project understanding which includes understanding the needs of clients and the objective of the project, the clarity in the requirements, documentations, and scope. The other factor was the competent project team, some respondents indicated that the team members should concentrate on the project. Communication was also a factor commonly identified in the results, and it should exist in all phases of project and between the stakeholders [3]. Questionnaire was forwarded to project managers, owners, contractors, and other concerned parties. The population were requested to select five factors out of many factors that previously determined by Pinto, Slevin and Davis [6]. Based on the results, the respondents chose clearly defined goal and directions as a critical success factor following with competent project team members. The third ranked factor was clearly defined roles, while the fourth one was communication and consultation with stakeholders. The last factor that respondent select is the compliance with planned time, cost, and quality [3].

Other Factors affecting the success of project were investigated and listed as follow[19]:
  - Applied Methods
  - Individuals in project
  - Organizational context

3. Aim

This paper intends to investigate the factors affecting the success of the projects. The methodology can be used to broaden the understanding of the success of the projects regardless the type of the project.

4. Research Methodologies

A secondary type of methodology was done. Data, results were gathered from different papers and journals. The process of quantitative research follows standard procedures, methods, forms of analysis and reporting the results of the research undertaken. This standardization is intended to maximize objectivity.
5. Results and Discussion

A comprehensive literature review on the success factor in projects was carried out in this study. In this context, studies focusing on the factors in different types of projects in different countries were reviewed. Most of these studies used the questionnaire survey and relative importance index to identify the most important factors causing success. In addition, almost all these studies have identified the factors based on previous studies.

According to the results of the literature review, the most cited factors of success are:

| Authors                        | Project Success Factors                                                                 |
|--------------------------------|----------------------------------------------------------------------------------------|
| Pinto and Slevin (1987)         | Defined goal and directions, competent project team members, defined roles, compliance with planned time, cost and quality |
| Sanvido, Grobler, Parfitt, Guvenis & Coyle (1992) | Teamwork enhancing policy, comprehensive facility team, adequate knowledge in handling different aspects of facilities, and information optimization in the planning and design stage |
| Belassi and Tukel (1996)        | Project size and value, uniqueness of project activities, political environment, economic environment |
| Standish Group (2000)           | Definition of project scope, lack of communication, and inappropriate management of project |
| Cooke-Davies (2002)             | Instruction on risk management ideas                                                    |
| (Baccarini & Collins, 2004)     | Understanding the needs of clients and the objective of the project, the clarity in the requirements, documentations and scope |
| (Yean & Ling, 2009)             | Management of both risk and human resource                                              |

Table 1 Success Factors from different studies

Establishing critical success factors will provide company/organization a competitive edge and a baseline of success in achieving the responsibility of a project management companies. This will lead to a rise to satisfied investors and make the project management company succeed. Several Investigations have presented the accent of the necessity of project planning and control. Large scale construction projects require a cautious planning before the execution. Social and economic expectations are presented in the large-scale projects. Hence, late finishing can affect the expected outcomes leading to enormous financial issue, performance, and the credibility of project itself. The backbone of a construction project is the adequate planning and active control mechanism. Having many resources with weak planning and control will lead to outcome issues. This mechanism has done be done in the early initial stages of the project. Inadequate planning causes project to finish behind agenda and with surprising delays. Therefore, specifying clear, realistic, recognizable goals by project team is vital. It permits the team to figure out where they stand, how far are they from the goal, and what they still require achieving the success. Once it has been done with fitting project planning and control, the accomplishment of the project tasks is far easier.

The competence of the personnel is another theme included in the rating of success factors. A team possessing experience, and knowledge is necessary for the success accomplishment of project goals. In a field where the project manager doesn’t know how to solve a problem, face a challenge, and needs expert skills, his role would be crucial. Moreover, it will cause excessive delays, and failed negotiations.

The unsatisfactory project efficiency can be due to the client itself. It should be recognized that client interest has many dimensions. Clients must be straight forward, quick in response and aware of the
consequences. Construction projects include modifications in design. Thus, client responsibility is necessary to prevent any possible action later. Project manager and the team must deal with changes on daily basis. These changes should be communicated to the client and involve them.

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7. Conclusion
Project success without any doubt is one of the most debated issues in the modern academic field of project management. However, an agreed description of project success hasn’t been noticed yet. Project success criteria and critical success factors includes the two crucial components of project success. The criteria are the variables that evaluate the project success while factors are the independent variables that can affect the project outcome.

Project successes rely on numerous features that can involve factors related to human, project, management, and external environment. Based on their requirements, the project participants have different benefits; however, they must possess an agreement about the objectives of the project. A great number of studies which focus on the factors leading to success of the projects have been carried out by many researchers. The main objective of this study is to identify and better understand the factors affecting the outcome of the projects. The present paper tries to investigate the project success factors through review of the previous articles in the project management literature. Time, cost, budget are the three most cited and important criteria followed by criterion of client satisfaction. Having argued the factors alone, the project wouldn’t be successful without satisfying the success criteria. Hence, the project success tends to be more accomplished with both project success factors, and the success criteria considered as whole.

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