

Understanding and measuring project success, a key ingredient in project management: An analytical research paper

Hajar HMINA, (PhD candidate)

*Faculty of Law, Economics and social sciences- Souissi
Mohamed V University of Rabat, Morocco*

Omar HNICHE, (PhD, Professor)

*Faculty of Law, Economics and social sciences- Souissi
Mohamed V University of Rabat, Morocco*

Correspondence address :	Faculty of Law, Economics and social sciences- Souissi Mohamed V University Morocco
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Abstract:

Projects are shown in this article as potent strategic weapons that are started to produce economic value and competitive advantage. It implies that project managers are the new strategic leaders and are fully accountable for the business outcomes of their projects. Therefore, defining and evaluating project success is a strategic management concept that should aid in coordinating project activities with the organization's short- and long-term goals. Although this idea seems straightforward and logical, there hasn't been much consensus among past studies about what actually makes a project successful. In fact, project success is a subject that is often debated but rarely settled upon. The definition of project success has remained vague. Because of the wide range of interpretations, it is a concept that can mean very different things to very different individuals, which gives rise to debates about whether a project is successful or not. While many of these studies produce lists of critical success factors, each list's scope and objectives differ. Typically, the success criteria are categorized as either highly generic or very specialized factors that only apply to a certain project.

This paper seeks to identify and assess what contribute to project success and whether the implementation of project management practices improve projects success, in order to do so, a narrative literature review of the pertinent most recent works on a number of subjects is conducted.

Keywords: Project success, project management, critical success factors, project success criteria, project management practices

JEL Classification: M10

Paper type: Theoretical Research (analytical research)

Résumé:

Les projets tels que présentés dans cet article sont des armes stratégiques puissantes entreprises afin de produire de la valeur économique et un avantage concurrentiel. Cela implique que les gestionnaires de projet sont les nouveaux leaders stratégiques et sont entièrement responsables des résultats de leurs projets. Bien que le succès des projets soit une préoccupation constante, ce concept demeure ambigu et sans définition précise et universelle. À son niveau le plus élémentaire, le succès du projet est considéré comme la réalisation des livrables du projet dans les délais, en respectant le budget et la qualité prévue c'est-à-dire en respectant le Triangle d'or du management de projet. Plusieurs écrits ont évoqué le concept de succès du projet, cependant les chercheurs en management de projet ont encore du mal à contourner sa définition et ses mesures. En raison du large éventail d'interprétations, il s'agit d'un concept qui peut signifier des choses très différentes pour des individus très différents, ce qui donne lieu à des débats sur la question de savoir si un projet est réussi ou non. Chacune de ces études produit des listes de facteurs clés de succès à part entière, toutefois leur portée et leurs objectifs demeurent différents de liste en liste. Généralement, les critères de succès sont classés soit comme des facteurs très génériques, soit comme des facteurs très spécialisés qui ne s'appliquent qu'à un certain projet.

Cet article cherche à identifier et à évaluer ce qui contribue à la réussite d'un projet et si la mise en œuvre de pratiques de gestion de projet améliore la réussite des projets. Pour ce faire, une analyse documentaire narrative des travaux pertinents les plus récents sur un certain nombre de sujets est réalisée.

Mots-clés : Succès du projet, management de projet, facteurs clés de succès, critères de succès de projet, pratiques de management de projet

JEL Classification: M10

Type d'article: Recherche théorique (recherche analytique)

1. Introduction

Since the 1950s, the majority of research in project management has concentrated on scheduling issues since it was thought that by improving scheduling methods, management would improve and projects would be successfully completed. Up until the 1980s, project managers' top priority was delivering project outcomes on time and within cost (Ika, 2004). But there are a lot of things that management cannot control that could make a project successful or unsuccessful. Despite the shift in study attention to other issues including client satisfaction and fulfilling a project's strategic goals, a sizable portion of project managers continue to prioritize the iron triangle of performance indicators, which includes cost, time, and scope. The complexity and uncertainty of project outcomes cause cost and time overruns (Williams, 2005), project managers occasionally pay penalties for the delays, which raises the entire project expenses. This can cause project managers to focus on this triangle, in addition to other factors like age and experience (Müller & Turner, 2007). However, an "output-focused" (Chih & Zwjkael, 2015) mentality is produced by placing too much emphasis on meeting the project's iron triangle performance indicators (cost, time, and scope). Both organizational and personal issues are brought on by this mindset. Maylor et al. (2006) demonstrate that this organizational mindset, which they refer to as "projectification," leads to a number of issues that limit the ability of the organization to effectively realize benefits from its projects. Individually, inexperienced project managers have a propensity to place a higher priority on iron triangle performance indicators than on indicators of client pleasure.

Apparently, it's not always clear if a project is a success or a failure. This uncertainty exists for two fundamental causes. First, because the parties participating in projects interpret project success or failure differently, as described in a work by Pinto and Slevin (1989), it is still unclear how to assess project success. Even if the customer may consider a project to be successful, senior management may view it as a failure if the project's output falls short of their expectations. In this instance, both of these stakeholders value the outcome differently since they are assessing project success in separate ways. The second justification which is the motivation of our study is because different research in the literature has different lists of success or failure factors. Despite the fact that numerous lists of components are generated, they appear to tabulate individual factors rather than arrange them according to a set of criteria in order to better analyze how they interact and the potential outcomes. In addition, many of these variables don't actually have a direct impact on a project's success or failure. The success or failure of a project is typically determined by a variety of elements working in concert at various stages of the project life cycle. The use of these tables might also cause other issues. For instance, because each project is different, most of the elements in a list might not apply to that particular project, or a factor that is crucial to a project's success might not be included. The classification of success criteria and the identification of the influences on project performance are the goals of this study. As a result, rather than analyzing each individual element, one would be able to first identify the group to which a factor belongs before figuring out how these factors interact to ultimately decide the success or failure of a project.

Consequently, a key question emerged, how can project success be best defined to serve organizational interests most appropriately? Based on this question, subsequent questions are formulated; how can we determine project success? How is project success related to project management practices?

This study examines previous empirical and theoretical studies on project management and critical success factors in order to fill the knowledge gap by determining whether good project management is a prerequisite for successful projects. It suggests that the likelihood of project success is increased when project management best practices are implemented. Through analytical research and a narrative literature review of the pertinent most recent works, we aim to address the questions listed above.

The organization of the paper is structured as follows. In the following two sections, we will review project management and its principles, school of thoughts related to our problem statement, then we will propose a definition for the concept of project success and examine researches on the variables influencing project success. We will detail at last the link between project management practices and project success. Conclusions and suggestions for further research are covered in the final section.

2. A Review of Project Management

The Project Management Institute (2000), defines a project as a temporary, clear beginning and end, endeavor undertaken to create a unique product or service. Projects can be thought of as the accomplishment of a particular goal and involve the use of resources on a number of different tasks or activities. According to Wysocki et al. (2000), a project is a sequence of unique, complex, and connected activities having one goal or purpose that must be completed by a specific time, within budget, and according to specification. This can be contrasted with a collection of activities or daily operations that are meant to be continuous processes without a predetermined end. General characteristics of projects include their purpose, life cycle, uniqueness, interdependencies, and conflict. A project is a special resource investment made to accomplish predetermined goals, including the creation of goods or services, in order to turn a profit or fulfill community service needs. A project is a permanent change with a set start and end date as well as a life cycle.

Theoretically, project management has been around for centuries. Modern project management, on the other hand, is a relatively new phenomena that is beginning to acquire traction in the rapidly growing information technology industry (Fox, 2004). A brief definition of project management is given by the Project Management Institute (2000) as "the application of knowledge, skills, tools, and procedures to project needs". Three primary factors are responsible for the development of modern project management (Baccarini, 1999):

- a. Complexity - Increasing work complexity and a requirement for further specialization;
- b. Change - As a result of intense competition on a worldwide scale, organizations are always under pressure to undertake change in increasingly dynamic situations;
- c. Time - The pressure to finish duties as soon as possible.

Modern project management has evolved into a discipline that continuously reshapes itself to enable growth in its application. Project management, according to Crawford et al. (2005), is a discipline that is "dynamic facing new challenges, as tools, methods and approaches to management that comprise the discipline are applied to different areas, for different ends, and in different cultures". Project management practices can be used on any project, from straightforward chores like office upgrades or restorations to intricate and difficult projects like designing and constructing an airfield or hospital complex. The art and science of project management practices must be applied to almost every project. The scale, complexity, and nature of the project will determine the level of technology needed, the degree of sophistication of the tools and procedures, and the types and quantity of employees engaged. The task of the project manager is to coordinate a series of dependable actions that are neither completely random nor strictly predetermined but change as the project's stages advance. Additionally, organizational culture, management science, and decision support techniques assist project managers in making a variety of decisions related to project management practices. Best project management practices can help managers increase effectiveness and production when properly implemented (Ferreira et al. 2013). An organization can choose the best tools and procedures for a particular setting using a variety of inputs, including different bodies of knowledge. The project management body of knowledge is referred to as the sum of knowledge within the profession of project management. The PMBoK contains both cutting-edge, newly-emerging

approaches and time-tested, conventional practices that are extensively used (Peng et al. 2007). The efforts made by the bodies of knowledge to organize the information needed to manage projects are largely predicated on the underlying presumption that there are recognizable patterns and generalizations from which replicable rules, controls, and best practice guidelines can be established, even if not in every situation.

The position played by the project manager is a key characteristic of projects. Despite playing a key role in the project management process, the project manager can only be as effective as the project team he is leading. Therefore, asserting that a project's success or failure depends completely on the project manager may be an understatement. The project manager must possess the necessary project management knowledge to ensure the success of projects. According to Ofori (2013), project management combines the skills of different people, enables them to accomplish the project's goals, and ensures the project's success. When evaluating the effectiveness of projects and project management techniques, quality is a crucial consideration. In their study on project success, Munns and Bjeirmi (1996) make a distinction between project success and project management success. While project management places a greater emphasis on short-term objectives and a more specialized context for success, their definition of a project shows an orientation towards longer-term goals like return on investment, profitability, and competition. According to Cooke-Davies (2002), there is the following contrast between project success and project management success:

- The overall project objectives serve as the benchmark for measuring a project's success.
- Success in project management is evaluated using the well-known and traditional measures of time, cost, and quality.

Despite the distinctions between project success and project management success, Munns and Bjeirmi (1996) come to the conclusion that they are complementary. A project can succeed despite the failure of project management, but successful project management implementations can raise the likelihood of success on a larger scale.

3. Theoretical Foundations of Project Management

Theoretical foundations constitute the common heritages of the theories that are discussed, contested, and supported in order to forecast the phenomenon under consideration, to highlight risks, present alternatives, and to assess presumptions. The best way to characterize project management, like many other management subdisciplines, is as a "fragmented adhocracy" (Whitley, 1984), i.e., a scientific discipline that draws from a variety of theoretical traditions without having a strong foundation of basic principles and ideas (Engwall, 1995). This has also been supported by literature reviews, where authors discuss distinct traditions in project management research that fall under the "rationalistic, tool-oriented tradition" and the "organization theory tradition" (e.g., Packendorff, 1995). This has gone further to include the identification of an even broader set of traditions and a number of so-called "schools of thought" (Söderlund, 2002).

The practical issues posed by coordinating activities in intricate projects gave rise to project management. Initially, Gantt charts, work breakdown structures, and planning techniques played crucial roles in project management's emergence from the operations management tradition. These tools and techniques were primarily created by and for practitioners who needed them to increase the effectiveness of project implementation. With a number of major publications and textbooks, management researchers also significantly contributed to the advancement of knowledge about project management. This growth of the "management science" or "Optimization School" in project management is being studied empirically in two separate streams. One stream, frequently referred to as "critical success factor" research, concentrated on the success and failure of projects with the aim of discovering the optimum

project management approach. This resulted from studies that were paid by governments to look at the underwhelming performance of publicly funded projects. Studies of critical success factors were combined with studies focusing on how to understand projects as organizational forms and processes. First, using evaluations of various matrix organizations for effective project implementation, we discover the rise of the contingency tradition in project management (Contingency School). Secondly, a number of papers published in the Academy of Management Journal examined issues that were more "processual" and "behavioral" with projects as organizational forms (Process School), such as project management ambiguity, organizational conflicts, and project management power. With their emphasis on the operations research of project management, the extensive examinations of the criteria and elements of project success, and the studies of projects as organizational forms, these streams of project management study are still significant today. To some extent, literature has expanded beyond these three study strands to discuss various other issues and procedures.

Söderlund (2010) provides an overview of the development of project management research and names seven major traditions or schools that have been documented in the top management and organizational publications: optimization school, factor school, contingency school, process school, governance school, relationship school and decision school. Each school is preoccupied with a particular view on projects in our study Factor school is apprehend best our problem statement. Table 1 provides a summary of this school of thought in project management research.

Table 1: Factor school of project management research: an overview

	Factor school
Main focus of analysis	Success factors and project outcomes/ project performance
Key question investigated	What determines project success?
Project management idea	'Targeting project management by factors'
Key influence	Diverse

Source: Authors

4. Measuring project success

4. 1. Success criteria

A clear distinction between critical success criteria and critical success factors should be made when examining projects and their management, for instance:

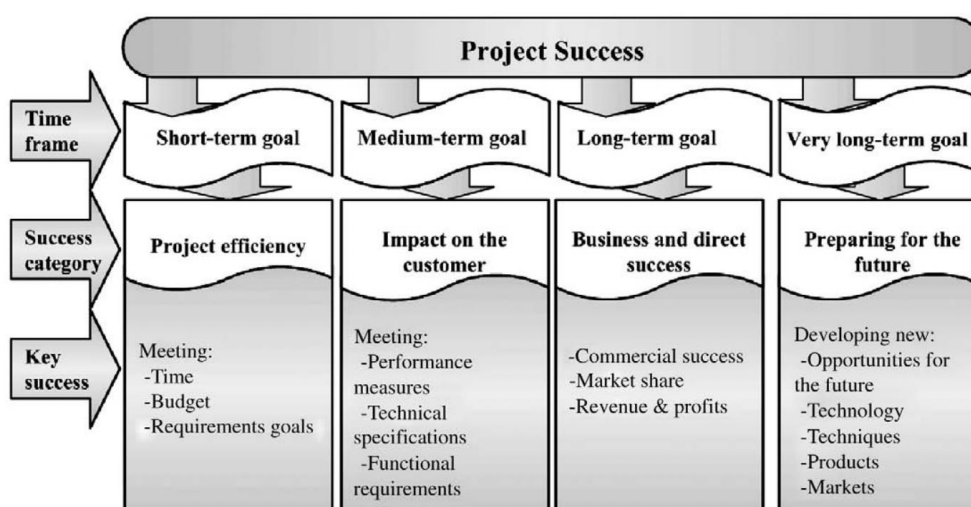
- The measures used to determine whether a project is successful or unsuccessful are called success criteria.
- The management system's inputs that directly or indirectly contribute to a project's success are known as success factors (Cooke-Davies, 2002).

Belassi and Tukel (1996), who advise that solid research on essential success factors must distinguish between success factors and success criteria and differentiate between project management controllable and uncontrollable aspects that affect success, endorse this distinction. The standard metrics of time, cost, and quality are no longer sufficient for determining a project's success criterion (Belassi & Tukel, 1996). Although it is simple and quick to measure these three fundamental parameters, some studies note that they have been challenged for being insufficient for a number of reasons. The traditional criteria, such as cost, time, and quality, were not truly one homogeneous dimension, according to Shenhar et al.(2001); fulfilling specifications (quality) is a different matter from adhering to project

resource restrictions (time and cost). These fundamental standards are inappropriate for continuous improvement because they fail to pinpoint the root causes of productivity and quality losses. The information gathered is frequently received too late to allow for corrective action, and these criteria do not adequately visualize the potential for change. Project activities must be in line with the company's short- and long-term goals in order for a project to be successful from a strategic management perspective. The importance of strategic project management for project success has also been recognized. Cost, time, and quality are viewed as transient criteria by Atkinson (1999) for gauging efficiency during the delivery stage. Atkinson's viewpoint is mirrored by Dweiri et al. (2006), who examined the fundamental standards as in-house indicators of project management effectiveness. When time to market is crucial, Shenhar et al. (2001) assessed the criteria of cost, time, and quality as an assessment of success in the near term.

Researchers have begun to discuss the introduction of new success metrics, such as participant satisfaction, satisfaction of interpersonal relations with project team members, stakeholders' satisfaction and client satisfaction. The success dimensions according to Shenhar et al. (2001) are combined in Figure. 1 within time frame. The dynamics of the success assessments are depicted in this graph, along with how the characteristics of success measurement change over time. For instance, the first dimension can be evaluated immediately, as a project is being carried out, or after it has been finished. While the second dimension can be evaluated once the project has been completed and handed to the client over a medium period of time. The other two dimensions can be evaluated after more time has passed.

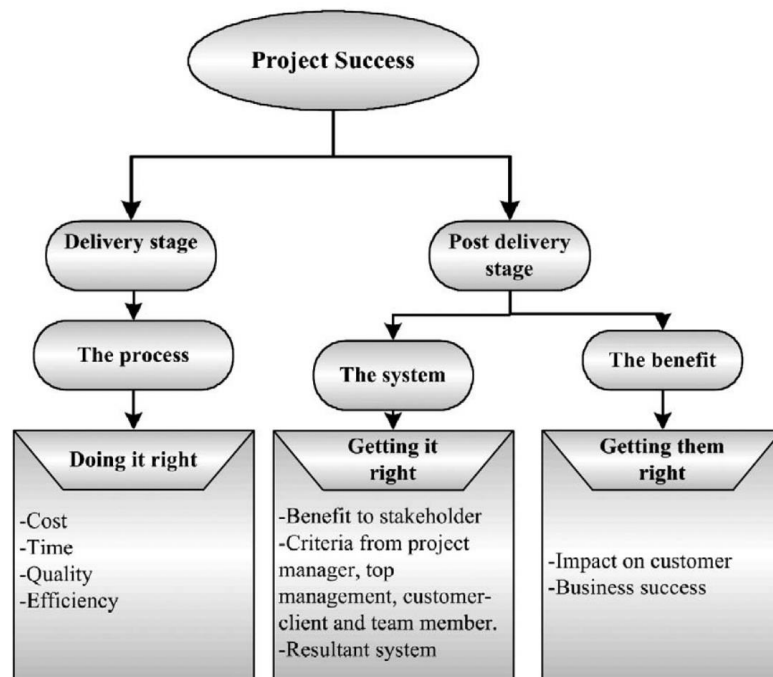
Figure 1: The four dimensions of Project success



Source: Al Tmeemy, S. M. H. M., et al. (2010, p:2).

Atkinson (1999) carried out yet another important analysis and separated the project into three phases. The first stage was the delivery stage, as can be seen from Figure. 2, which depicts these stages. During this phase, the emphasis was on project management and executing things correctly. The following phase was post-delivery, which focused on the system and measured the advantages for the resulting organization (direct benefits). The post-delivery stage, which was the third, evaluated the advantages for a larger stakeholder community (indirect benefits). Shenhar et al. and Atkinson have made important contributions to knowledge management and departed from the conventional approach to success measurement by concentrating primarily on time, cost, and quality.

Figure 2: Measuring Project success



Source: Al Tmeemy, S. M. H. M., et al. (2010, p:3)

Boyd (2013) introduced five guiding principles for measuring project satisfaction, regardless of the project's scope, size, or duration. These principles are: delivering the product the customer wants or needs; delivering quality that is consistent with price; delivering the project within the customer's specified timeframe; delivering the desired level of feedback; and having a system of conflict resolution that is fair to both the client and the development team. There may be a number of parties involved in every project, each with their own definition of success. By coming to the conclusion that it is still unclear how to assess success because the parties involved in projects see project success or failure differently, Pinto and Slevin (1989) acknowledged this ambiguity in measuring project success. Numerous elements that can be seen as essential to the success of a project have been significantly influenced by research. However, because each project is distinct and particular, it may have a varied set of success characteristics.

4. 2. The challenge of identifying the critical success factors that lead to project success

Critical success factors are generally referred to as a group of project variables or characteristics that are closely associated to project success and whose maximization or minimization, depending on whether they are favorable or unfavorable, will lead to project success. Rockart (1981) defined critical success factors as the few areas in which effective competitive performance for the individual, department, or organization is guaranteed by good results. They are a few key areas where success is essential for the organization. If outcomes in these areas are subpar, the organization's efforts for the time period will fall short of expectations.

According to Belassi and Tukel (1996), the success or failure of a project is determined by a variety of elements acting in concert at various stages of the project life cycle. The primary success criteria and success determinants from earlier empirical investigations are listed in Table 2.

Table 2 : Literature review of success criteria and success factors

Author	Success criteria	Success factors
Westerveld (2003)	Budget, schedule, quality, appreciation by; client, project personnel, users, contracting partners and stakeholders	Leadership and team Policy and strategy Resources Stakeholder management Schedule Risks
White and Fortune (2002)	Complete within schedule Complete within budget Meet client requirements	Clear goals/objectives Realistic schedule Top management support Adequate resources Effective risk management Clear communication channels
Belassi and Tukel (1996)	Cost Time Quality Client satisfaction	Clear objectives/goals Top management support Scheduling Sufficient resources Planning and control Monitoring and feedback Client consultation

Source: Authors

Table 2 frequently contains the three fundamental criteria of time, cost, and quality. Additionally, establishing overall project success is said to depend significantly on client satisfaction. The appreciation of the many stakeholders involved in the project, both directly and indirectly, was another factor taken into account by Westerveld (2003).

Frese and Sauter (2003) draw the general conclusion that project leadership, governance, and communications, as well as good planning, clear responsibility and accountability, and schedule control, are crucial components of successful projects. This indicates that the key success components for project management are a clear project plan, a plan for risk management, and the commitment and support of stakeholders. Khang and Moe (2008) go one step further and suggest sets of crucial success indicators for each stage of the project life cycle, as shown in Table 3.

Table 3 : Project critical success factors

Phase	Success factors
Conceptualization	Clear understanding of project environment Effectiveness of consultation with stakeholders Competency of project team
Planning	Alignment with development priorities Adequate resource support Effectiveness of consultation with stakeholders Competency of project team
Implementation	Compatibility of regulations for project management Effectiveness of consultation with stakeholders Consistency of support for stakeholders Competency of project team
Closing	Adequacy of project closure activities Effectiveness of consultation with stakeholders Competency of project team

Source: Khang, D.B & Moe, T. L. (2008).

Drawing judgments on the causes of a project's success or failure is as difficult as project management itself, despite the different definitions of what constitutes success and failure factors. It is important to note that the legendary "iron triangle" of project management is not the only yardstick for determining whether a project will succeed or fail based on the definitions

of crucial success indicators provided by different writers. Fortune and White conducted a survey of 63 articles that concentrate on critical success factors and concluded that there is little consensus among authors regarding the variables that affect project performance. They describe the top three mentioned characteristics as being: the significance of senior management support for a project; having clear and attainable objectives; and establishing an effective plan. Table 4 below presents the critical success factors investigated in previously conducted studies, it appears that some researchers examined used a different terminology for the same criteria cited above.

Table 4 : summary of literature review on critical success factors

	Authors								
Critical success factors	Pinto & Slevin (1987, 1989)	Kerzner (1992, 2001, 2003)	Yeo (2002)	Boyd (2001)	Andersen et al. (2002)	Hyvari (2006)	Turner & Muller (2005, 2007)	Khang & Moe (2008)	Frese & Sauter (2003)
Clear project management objectives	X		X		X			X	X
Top management support	X		X		X	X	X	X	X
Information / Communication	X			X	X	X			X
Client involvement	X	X		X	X	X		X	
Competent project team	X					X	X	X	
Authority of the project Manager/ Leader	X				X				
Realistic cost and times estimates	X	X	X	X					
Adequate project control	X				X				X
Project performance and quality		X		X					
Adequate resources	X	X			X	X		X	
Planning/ controlling	X	X	X		X		X	X	X
Monitor performance and feedback			X	X		X	X		
Project mission/ common goals	X	X			X	X			

Source: authors

5. Project management practices and project success

The assumption that using formal project management practices will improve project success is supported empirically by the majority of studies. These findings support the promotion of formal project management standards made by professional organizations like the Project Management Institute, Association for Project Management, International Project Management Association, and others. Therefore, success is related to more than simply a few particular aspects of project management, such as the triple constraint. When examining previous studies, we identified a number of significant associations when we examined the connections between particular practices and dimensions of success. Certain practices pertaining to the many elements of success are intuitively clear (such as use of cost-related practices in meeting cost targets, or use of quality-related practices in meeting quality requirements). However, practices pertaining to scope, integration, risk, human resources, and communication are noteworthy as they are all strongly connected to various success dimensions:

- In order to meet the cost and time goals and please clients, the scope statement must be created, updated, and formalized changes. These procedures probably keep everyone informed of any changes and lessen scope creep. Furthermore, other than reaching time and cost targets, developing a list of project deliverables is related to all success dimensions. It represents "clear and realistic aims" and makes desired results more apparent (Fortune & White, 2006). The same success factors were associated with the usage of status review meetings. These gatherings appear crucial in ensuring that the project stays on course to reach its goals.

- The utilization of team-building exercises is another HR strategy connected to a number of success metrics. This method improves group cohesiveness, which has several advantageous effects on project performance (Jones & Harrison, 1996). A more cohesive team, for instance, can produce a better project because its members can collaborate effectively to solve problems. One of the key project management success aspects that has been acknowledged is customer communication. In our study, information gathering and dissemination are linked to client happiness. It would be difficult to meet cost and time targets, as well as achieve business objectives, without good communication among those involved in the project so there is a clear understanding of where the project stands (Banihashemi et al. 2017).

A number of success aspects are connected to a variety of risk-related practices. Achieving technical criteria, as well as meeting standards for quality and customer satisfaction, are all tied to quantitative risk analysis. This practice enables a deeper comprehension of prospective hazards, both in terms of the likelihood that they will materialize and the potential consequences if they do. This helps to better prepare for resolving such risks if they materialize and works in concert with creating a contingency plan to ensure that the project is completed as close to schedule as feasible. Stakeholder analysis, a component of project integration, is connected to exceeding customer expectations and satisfying quality standards. By conducting a stakeholder analysis, it is possible to gain a better understanding of the key stakeholders and their expectations, which should help the project better meet the standards for quality and satisfy the client.

Understanding the project's scope, keeping abreast of any modifications to that scope, regularly reviewing the project's progress, keeping people with an interest in the project informed, and having a productive team working on the project all appear to increase the likelihood of project success. These procedures represent some of the critical success factors, such as "clear realistic objectives," "strong/detailed plan kept up to date," and "communication/feedback," that the studies above identified as being most frequently cited. Additionally, authors discovered that team development was strongly associated with project success. A good strategy and the correct people only work when everyone is aware of what is happening on the project so that adjustments can be made, if necessary, as project management practitioners point out.

6. Conclusion

To determine a project's success solely based on objective standards will be incompetent (cost, time, and quality). According to this paper, project success is a multifaceted term, which is consistent with other findings. Thus, it is believed that the outline presented in this paper will aid the management in understanding the crucial factors that contribute to success, maximizing the likelihood that a project will succeed, planning for the future, and gaining a competitive edge. Additionally, this paper will serve as a starting point for additional study in this crucial area.

It is clear that determining success is difficult, and projects are rarely a catastrophe or a failure for all parties involved across all stages of the project life cycle. As a result, a project may be successful for one party while failing for another. Success also depends on timing. A project could be viewed as successful one day and unsuccessful the next. Therefore, believing that one can assess a project's success objectively is a fallacy. However, analyzing finished projects or carrying out an interim or post-completion audit is a useful exercise; less to determine the success or failure in absolute terms than to pinpoint what went well and what didn't and why, in order to apply the lessons learned on subsequent projects if appropriate. Another difficulty in comprehending project management and consequently evaluating its effectiveness is defining project success. It is generally acknowledged that a project's technical goals can be met while adhering to the three project constraints of scope, time, and cost, as well as its usefulness as perceived by its beneficiaries, sponsors, and project team members. A project's performance can also be used to determine whether it was successful or not. A project's success or failure can only be accurately assessed after it has been completed, according to this definition.

Our paper's contribution is the knowledge we have learned on the relative use of various project management practices. The considerable positive link between PM use and project success should serve as another motivation to adopt formal project management methods, and these findings reinforce the notion that doing so will enhance project performance. This justifies the work done by professional organizations to promote PM standards, the adoption of the standards by businesses, and the efforts of practitioners looking to advance their own abilities and knowledge through training and certification.

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