

PROJECT MANAGEMENT INSTITUTE:



ANALYSIS ON THE ROLE OF STANDARDIZED PROJECT
MANAGEMENT ON PROJECT PERFORMANCE

STRATEGIC STANDARDIZATION
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Faisal S Aldhfayan

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ABSTRACT

This paper attempts to examine the relationship between the standardized project management and the project performance. Standardized project management is defined as a standardized set of project management practices. The history of project management standard development is reviewed as well as introduction of the development organization Project Management Institute. With thorough synthesis of existing literature on standardized project management practices as well as their relationship with project success, this paper proposes a theoretical framework in development of a project management approach which includes three layers: perception layer, institution layer, and implementation layer.

INTRODUCTION

The information era has posed more and more challenges to modern organizations during the past decades. The fast-changing market demands, technological innovation, and internal organizational working environment change the way people work and live. Opportunities and challenges become the two major themes for most organizations in the 21st century. Project management has evolved together with the above mentioned changes in the world, and project managers develop themselves into an independent profession as other professionals such as Certified Financial Analysts (CFAs) and Certified Public Accountants (CPAs). Project performance is the key indicator for assessment of the competency of any professional in the project management profession. This paper attempts to address a very important aspect of the project management—standardized project management.

Different from most technological standardization such as IT standardization, there is no such a written document such as Internet PROTOCOL that can be referenced by project managers. Despite the great contribution from the project management standard setting body Project Management Institution in the United States, there is still plenty of work to be done towards an unanimously agreed upon standard that can be easily sold to every corner of the earth. This study aims at making up this deficiency in the literature by synthesizing the existing studies and proposing a comprehensive project management framework.

The rest of this paper is organized as follows: section 2 illustrates the background of project management standard as well as a brief introduction of Project Management Institution; the current literature on standardized project management is reviewed in section 3; section 4 identifies factors contributing to standardized project management and proposes a three-layer framework for development of standardized project management; section 5 concludes the paper.

BACKGROUND OF PROJECT MANAGEMENT STANDARD

Standard is the term used frequently in the context of technological implementations or industrial practices. Simply put, it refers to an established norm or requirement (*see definition in Wikipedia Encyclopedia*). Also in the illustration of the denotation of standard is the essence of a technological standard—“...a formal document that establishes uniform engineering or technological criteria, methods, processes and practices” (*see definition in Wikipedia Encyclopedia*). Therefore, it is easy to understand that existence of standards usually involves one or more specific technologies. However, this paper addresses a different kind of object for the development of a standard — the project management standard which is developed to enhance the project performance in businesses of various industries.

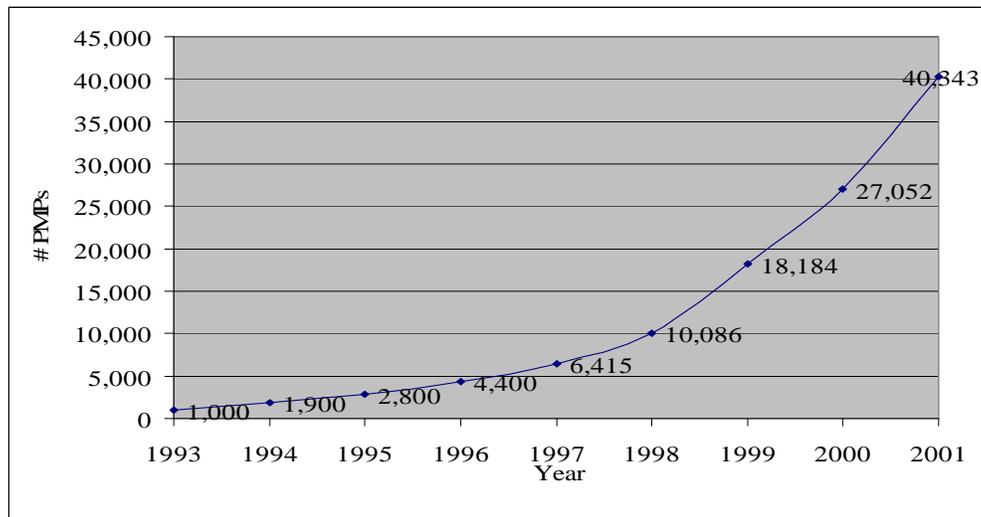
Project Management Standard vs. Technological Standard

Different from a technological standard, project management standard looks at a sort of art-type work which is the management of various projects in all kinds of business environments. Thus, the project management standards are seldom expressed as formal technical documents as used in Information Technology standards. For technological standards such as Information Technology standards, a document is often used to delineate the essence or characteristics of physical artifacts, algorithms, or processes (Crawford and Pollack, 2008). Such document text may be complicated but people can easily overcome cultural and language obstacles as soon as they understand the content of this document. However, in the context of developing a standard for project management, the vast majority of different project and human factors involved in coordinating team members in completing these projects makes it extremely difficult to achieve an unanimous understanding of how can project management be “best” conducted in reality. So it is natural to see the fact that the current standards in the marketplace are usually the end results

of tough political negotiations by various professional associations (Crawford and Pollack, 2008).

One Developing Organization—Project Management Institute

Among the numerous professional associations aiming at developing project management standards that can be accepted by other professions, the Project Management Institute is addressed in this paper as the major contributing organization in the development of project management standard. As one of the largest project management professional associations, the Project Management Institute was established in the North America in 1969. Now the Project Management Institute has more than 260,000 members in more than 171 countries and claims itself as “...the leading membership association for the project management profession” (*see website of the Project Management Institute*). The Project Management Institute primarily engages itself in advocacy for the project management profession, sets professional standards, conducts research and provides access to information and resources related to project management practices. One best example of the significance of this institution might be the public acceptance of their certification which is named as PMP. The following graph exhibits the trend of the total number of Project Management Professional certificates (hereafter referred to as PMP) in the 1990s (*see Figure 1*).



Source: see www.pmi.org.

Figure 1 Total Number of PMPs

The biggest contribution that the Project Management Institute made in its 40 years of history may be its development of the arguably most important project management standard—the PMBOK[R] Guide (PMI, 2004). This guide has been approved by the American National Standard Institute as the national project management standard for the United States. Also, the Institute of Electrical and Electronics Engineers accepts this guide as an IEEE standard (see PMI, 2005). It is noteworthy that the PMBOK[R] Guide is still a national standard which is advocated by mostly a North American community. However, with development of the Project Management Institute and its ever-growing constituency of membership, this guide is becoming more and more oriented towards a global setting, and it is expected to turn into a de facto international project management standard.

The Standard—PMBOK[R] Guide

The aim of the initiators of this white paper back in 1987 was to attempt to standardize generally accepted project management information and practices (Holtzman, 1999). The current three editions of this standard were published in 1996, 2000, and 2004, respectively by the

Project Management Institute. As a set of internationally recognized standard, the PMBOK[R] Guide provides lays the basis for the framework of guidelines for project management, and the projects covered include construction, software development, engineering process, and automotive innovation, etc.

The whole PMBOK[R] Guide organizes its content by processes as it views work as a series of overlapping processes. These processes interact and overlap within a project's various phases. For any process, three parts are necessary—inputs, tools and techniques, and outputs. Specifically, inputs refer to documents, plans, and designs; tools and techniques are those mechanisms that are applied to the inputs; outputs may be either documents or products as well as other types of project results. There are altogether 44 processes in the PMBOK[R] Guide, which are categorized into five groups including (*see description of PMBOK[R] Guide at Wikipedia Encyclopedia*):

- Initiating;
- Planning;
- Executing;
- Controlling and Monitoring;
- Closing.

Besides the five groups of processes, the PMBOK[R] Guide also relate the 44 processes to nine knowledge areas in the context of project management, including:

- Project Integration Management;
- Project Scope Management;
- Project Time Management;
- Project Cost Management;
- Project Quality Management;

- Project Human Resource Management;
- Project Communications Management;
- Project Risk Management;
- Project Procurement Management.

The overall target of the PMBOK[R] Guide is to achieve effectiveness of project management for most types of projects through a set of standardized norms and guidelines. The five groups of processes and nine knowledge areas comprise a project management matrix that can be applied and utilized by project managers in different cultures, business environments, and project settings.

LITERATURE REVIEW

It is widely recognized that existence of standards is an essential issue in the context of economic development and organizational performances. The quality of standards in terms of their guiding power to business activities is usually considered by managers as sources of power of their business practices. As mentioned in the publications of the Standards Australia (2000), there are altogether about half a million well-established standards in the global setting which are the work products of over one thousand recognized standard development organizations. Bredillet (2003) defines standard in his research paper on genesis of standard as "...something that is set up and established by an authority as a rule or measure of quantity, weight, extent, value, and/or quality..." The author further provides a list of synonyms of standard, including: benchmark, criterion, and touchstone. The definition of standard, as is in the PMBOK[R] Guide, is "...a standard is a document approved by a recognized body, that provides, for common and repeated use, rules, guidelines, or characteristics for products, processes or services with which compliance is not mandatory" (PMI, 2004).

The aims of standardization, as summarized by Bredillet (2003), are multi-fold. The first object for standardization is to provide clear definitions of products and services for producers' informational purpose. Second, standardization is destined to improve quality of life, safety, health and environment. The third goal of standardization is to achieve optimum economic resource usage in production processes. Easy and unambiguous communication between interested parties comprises the fourth aim of standardization, while the fifth advantage of standardization lies in the promotion of international trade with uniformed standards in traded products and services. Therefore, it is not hard to tell from the aims of standardization that the function of standards can never be over-emphasized in any industries or professions, including the topic in this paper—the project management practices. Standards can facilitate economic development and develop individual and organization competence. A systematical review of the benefits from standardization is provided by Verlag (2000). In his summary, Verlag (2000) presents his research findings on the significant contributions of standards to businesses and the economy as a whole after interviewing private businesses, households, states and standards bodies.

The target for standardization in this paper addresses a most important business practice—project management. In the handbook on project management which is developed by Kleim and Ludin (1998), project management is defined as "...the tools, techniques, and processes for defining, planning, organizing, controlling, and leading a project as it completes its tasks and delivers the results. But let's take a closer look at the functions of project management just mentioned". Also in this handbook, Kleim and Ludin (1998) identify the importance of standardization in project management practices by arguing that standardized processes related to the various tasks in a project are important to the ultimate success of the overall project. The

role of project management in modern business settings is stressed by Turner (1999) and Frame (1994). Both authors view project management as the most efficient way of implementing corporate strategies and company management. Furthermore, project management can add value to a company through consistent and continuous implementation of new projects of all types across an organization (*see Dinsmore PC, 1999*). Bredillet (2003) also contends that project management standards should be considered as enablers of more efficient and more effective way of using economic resources under the major theme of sustainable economic development.

In the current literature on project management, some studies address the relationship between project management and standardization. The Standish Group study (CHAOS) in 1995 examined the status quo of ongoing IT projects, only to find disappointing project performance. In their findings, only 16.2% of IT projects could be deemed as successful stories with as much as 31% projects cancelled before completion. The rate of time overrun was as high as 222%, and the rate of cost overrun was 189%. The Standish Group did a follow-up study on IT projects in 2001, and their 2001 report indicated significant improvements in project performance: the rate of time overrun decreased from 222% to 163%, while the rate of cost overrun decreased from 189% to 145%. This result, though, was not satisfactory enough. The Standish Group researchers attributed the significant improvements in project performance to “better control tools and more skillful project managers”.

Besides, other studies abound with focus on the relationship between project performance and standardized project management practices. For instance, Bolles and Hubbard (2007) argue that companies should seek to establish standard project management practices throughout their organizations. The authors propose project managers as well as the companies they serve to learn more and institutionalize their knowledge on project management. Another study by Marko,

Dejan, and Vladimir (2006) contends that to better implement corporate strategies, contemporary companies should aim at turning themselves into project-oriented business entities emphasizing standardized project management, which reflects the close relationship between project management and standardization. An empirical study by Milosevic and Patanakul (2004) bases its research findings on the authors' series of interviews with project managers in high-velocity industries. Their three major findings include: first, standardized project management tools as well as leadership skills matter a lot to project processes; second, these standardized project management tools have to be customized to some extent to fit into the specific business settings; third, companies seem to be ready to standardize their project management practices only to a certain level.

A STANDARDIZED PROJECT MANAGEMENT APPROACH

One major characteristic that differentiates the project management profession from other professions such as IT engineering profession is the uncertainty involved in the vast variety of projects in different cultural and business environments. Many project managers view their work as more art-like than other professions. Efforts from academia and business community have been exerted in order to find out a unified standardized project management approach. However, the question remains: is there such an approach that can be perfectly suited into all kinds of different projects?

Researchers have attempted to probe this question from various aspects. For example, Milesovich and Pantanakul (2002) argue that a consistent managerial approach may be essential to the successful standardization of certain aspects of project management, and they propose a contingency approach to certain aspects too. This argument actually indicates that low standardization with a sufficient amount of discretion by project managers based on different

circumstances is necessary for successful project management practices. Therefore, instead of striving to a hard answer for the above question, this paper tends to synthesize the current literature and identify those factors contributing to successful standardized project management practices. Furthermore, the impacts of those factors identified as well as the overall role of standardized project management are discussed in this section.

Factors Contributing to Successful Standardized Project Management

Standardization of project management practices, just as provision of optimum other professional practices, rely on a series of factors that can contribute to its success in reality. These factors serve as basic elements for any theorists or methodologists to construct their approaches or models in reaching optimum project management practices. Specifically, these factors include: common perception of what best practices are; project managers' commitment to a series of necessary activities in their daily project management practices; an organization's capabilities in achieving best practices.

First, project management professionals may have to agree upon a most basic aspect of their work—the best project management practice. PMI (2003) addresses this issue in their OPM3 model by attributing project management maturity to existence of best practices. Simply put, a best practice is “...an optimal way currently recognized by industry to achieve a stated goal or objective” (PMI, 2003). As for a best practice for project management, PMI (2003) confines the scope of this concept to “...the ability to deliver projects predictably, consistently, and successfully to implement organizational strategies”. It is noteworthy that the best practice definition may have continuously updating connotation as time goes on or changes of contexts. The dynamic nature of best practices increases the difficulty of reaching a consensus among project management professionals. Very often brainstorming approach has to be utilized by

methodologists to arrive at a clear identification of what a best practice is for a specific type of projects.

Second, project management professionals must have enough knowledge, skills, perseverance, determination, and aspiration in a series of activities in their practices at work.

These activities include but are not limited to the following:

- Understand, identify, and communicate processes in a project. Project management professionals are assumed to be those who understand and know projects best. If project managers can clearly identify and communicate to his or her team members the different overlapping processes of a project, team members in a project can benefit from such communication and consequently enhancing work efficiency.
- Utilize performance metrics. Milesovich and Pantanakul (2002) contend that performance metrics form a factor for their standardized project management approach. If project managers can monitor performance of his or her team members using comprehensive metrics, these projects tend to have fewer problems than those without such performance metrics utilization.
- Control and continuously improve processes. This might be one of the most challenging tasks for any project manager. Besides identification and communication of processes, project managers may have to be responsible for controlling and improving processes, This task requires creativity and innovative capacity. Sometimes the change of conventions requires tremendous courage and perseverance from project managers.
- Prioritize multi-projects and align them with organizational strategy. Strategy is usually considered as the task of senior management and leaders in an organization.

Although project managers seem to be focusing on the project level, they are required to

participate in the process of initiating organization strategies. Thorough knowledge of organizational strategies is a “must” for project managers, or they cannot coordinate their various projects in order to efficiently allocate an organization’s economic resources and human power among these projects. It is reasonable to argue that project managers’ efforts in prioritizing projects and aligning projects to organizational strategies are equally important as those from strategists for an organization.

- Develop and apply success criteria to continue or terminate projects. Not all projects are destined to be successful, and a good project manager should be able to develop his or her own criteria (or sometimes even intuition or expectation) in judging fates of different projects. Prompt termination of those destined-to-fail projects can save tremendous resources for an organization and provide opportunities for other possible project proposals.
- Create teamwork atmosphere as well as personnel project management competencies. Although the PMP certificate is not issued to any one in an organization, project management competencies are not confined to project managers only. A good project manager should be able to impact people around them in terms of obtaining more knowledge and skills of project management. At the same time, project managers should be concerned about his or her team member’s teamwork spirit. Good teamwork is always essential to any successful project.

The third factor is to some extent related to the second factor that suggests project managers to do a series of activities in their project management practices. That is, in order to provide satisfactory results in those activities as suggested in the second factor, an organization has to develop its own competency in term of its capabilities of conducting those activities. In

this context of project management, a capability may be comprehended as an organization's competency in executing project management processes and delivering project management services and products. Without availability of capabilities within an organization, it is impossible to imagine achievements of any best practice. More importantly, project managers or management within the target organization must have a set of proper criteria to assess the extent to which their organization has these capabilities. For better illustration purpose, this paper cites the example in the report of PMI (2003) on their promotion of the so called OPM3 Model for project management. PMI (2003) exemplifies the dependency between best practices and capabilities by listing four capabilities that are essential to establish internal project management communities: 1) facilitate project management activities; 2) develop awareness of project management activities; 3) sponsor project management activities; and 4) coordinate project management activities. It is clearly shown in PMI's OPM3 Model that an organization's capabilities in mobilizing its personnel in terms of project management activities are key for achievement of best practices.

Measures of Project Success

Any analysis on the effects of standardized project management techniques or approaches may be vulnerable for attack if there are no clarified understanding on the identified measures of what project success actually is. The topic of this research paper is to analyze the role of standardized project management approaches on project performance. Therefore, after illustrating and elaborating the factors that may impact standardized project management approaches, some discussion should be laid on measures of project success.

Other researchers have devoted their research efforts on this issue. For example, Brown and Eisenhardt (1997) point out the timely delivery of services or products on schedule is one

measure of project success. Other measures as identified in the literature include: market anticipation (e.g. Brown and Eisenhardt, 1997), successful targeting of object market (e.g. Milosevic and Patanakul, 2004), quality of the process of project management (e.g. Hartman and Ashrafi, 2002), customer satisfaction (e.g. Hartman and Ashrafi, 2002), market share or dominance, profitability, etc.

Market anticipation involves project managers' anticipation of the marketability of their products or services. To step ahead of competitors in a potentially profitable market is always important in the sense that such timing advantage is usually equal to high profitability. The successful targeting of object market is successful and careful market division by project managers. In other words, a project manager should on the one hand clearly identify capabilities and inabilities of his or her team and carefully select proper projects, and on the other hand match such ability analysis with the object markets. Without such appropriate selection of object market, project managers may not do a good job in achieving satisfactory project performances. As for quality of project management, this is directly related to the ability of a project manager. Criteria may vary, but usually project managers are expected to be able to accurately monitor the progress of projects and coordinate cooperation among team members, etc. Customer satisfaction, market dominance, and profitability are easily understandable since these are the external feedback on a project manager's job. Customers' comment and market reactions as well as the overall return of investment on projects are usually quantified to assess the project performances.

Link between Factors Contributing to Successful SPM and Project Success

The prior discussion deals with identification of factors that contribute to successful standard project management practices as well as measures of project success. The link between

these factors and ultimate project success may be a standardized project management approach. As mentioned earlier in this paper, it is not possible to find out an approach that can be applied to all different kinds of projects. However, it is advisable to devise a theoretical framework, after integrating findings in the existing literature, for project managers to mediate in their mind in their daily project management practices.

This paper proposes a general theoretical framework attempting to draw a picture for project managers. Simply put, this framework has three layers: perception layer, institution layer, and implementation layer (*as shown in Figure 2*).

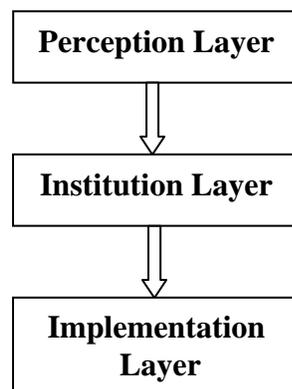


Figure 2 Theoretical Framework of Standardized Project Management Approach

Perception Layer

In this layer, an organization has to exert efforts in unifying perception among all project managers as well as other personnel (e.g. team members of a project team) on what best practices are. Prior experiences as well as reference to peer organizations in the same industry can be relied upon by management of the organization to identify most, if not all, desirable best practices in their projects. This process of unifying best practice perception should be open-end and not end as a one-time shot procedure. Instead, continuous exploration of best practices in a

dynamic working environment can ensure the continuously updated blueprints for the prospective project management practices.

The challenge remained in this layer is the different viewpoints held by different project managers. To cope with such conflicts that may ensue with the perception unification, standardized project leadership, as proposed by Milosevic and Patanakul (2004), may facilitate resolution of such conflicts. Standardized project leadership refers to standardization of a series of skills among project managers, including business skills, process skills, technical skills, and interpersonal skills (Milosevic and Patanakul, 2004). The assumption made by the authors is that people of similar competencies tend to think alike.

With common perception of what best practices are, the great minds or strategists in an organization can start institutionalize the project management tools and processes, which is called Institution Layer in this framework.

Institution Layer

The core concept in standardized project management is standardization. The target for the standardization process, then, lies in standardization of project management tools and processes in the daily tasks of project managers.

Project management tools refer to a set of procedures and techniques through which project personnel produce project deliverable or output. It is a fact that not all projects have to be accomplished through identical tools. However, in the case of a specific organization, it is natural to see that many projects, or at least project in one major business line of this organization, may share some common project tools. Therefore, it is possible for management of this organization to create some “template” project tools, procedures, or techniques that can be

used to evolve customized project management tools in the future projects. The only additional efforts that are needed can only be minor or insignificant modifications.

Another part of the institutionalization is standardization of project management processes. Without orientation or instructions, project management process may exhibit very personalized styles per each project manager's personal tastes and preferences. As it may be attainable in reality, this can cost the organization precious resources in reinventing project management processes. Many studies have posited that standardized project management practices are critical in project performances (e.g. Milosevic and Patanakul, 2004; Cooper, 2001, etc.). With the standardized project management processes written into the by-laws of the organization, it is desirable that all current or future project managers can have the same work instructions to follow. Consequently, project performances can enhance as argued by studies in the literature.

Implementation Layer

With common perception of what to do and well-drafted work instructions of how to do things do not necessarily guarantee desirable end results for the project management story. Not only project managers have to believe in the values of the identified best practices, standardized project management tools, and standardized project management processes, but also all other personnel in the organization have to contribute to the successful implementation of project management model proposed in this paper.

Efficient and timely communication between project managers and their fellow team members is extremely important for successful implementation of the standardized project management approach. On the one hand, standardization saves project team members tremendous amounts of time in most circumstances to learn "new things"; on the other hand,

different projects still require dissemination of information on the modifications on the prior project tools or processes by project managers.

The upper management should timely extend their support to compliance of project managers on the standardized project management practices. One precondition might be that these existing standardized project management tools and practices are of the best interest to the organization in terms of resource utilization efficiency and project performance enhancement.

Another side of the implementation layer is the assessment of such standardized project management implementation. Without proper monitoring function, it is hard to ensure that all project managers comply with their commitment to the organization that they will follow the standardized game rules.

CONCLUSION

This paper presents some background information on the topic of standardized project management, reviews literature on the relationship between standardized project management and project success, and proposes a theoretical framework on developing a properly standardized project management approach.

Starting by comparison between project management standards and technical standards, this study addresses the core characteristic of the project management standards: the art-type work in most project management practices is destined to provide flexibility and leeway for project managers in their task performances. A project management standard setting authoritative organization—Project Management Institution has led the standard setting in the context of project management standardization since half a century ago. Their major product—the PMBOK[R] Guide has gained more and more popularity in the world.

A list of factors that contribute to project successes are retrieved after reviewing existing literature on project management standardization, including: common perception of what best practices are; project managers' commitment to a series of necessary activities in their daily project management practices; an organization's capabilities in achieving best practices. Furthermore, measures of project successes are categorized in the following: market anticipation, successful targeting of object market, quality of the process of project management, customer satisfaction, market share or dominance, profitability, etc.

With synthesis of prior studies and research findings of other scholars, this paper proposes a comprehensive theoretical framework on development of a project management approach. Three layers exist in this framework: perception layer, institution layer, and implementation layer. This study concludes that common perception of best practices in an organization, institutionalization of standardized project management tools and processes, as well as proper support from all other personnel such as team members and top management can together contribute to the successful project management practices in an organization and project performance enhancement in the long run.

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