Project Management Frameworks: Comparative Analysis

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"There is a morsel in the body, if it was righteous the whole body becomes righteous, and if it spoilt the whole body spoils; that's the heart."

Mohammed (PBUH)

Abstract

There is a number of Project Management Frameworks available in the community, each has been developed, adopted, and promoted by well-known and highly reputable institutes. Each of these frameworks has its strong points and advantages over the others in different application areas. Examples of these are ISO project management standards, PMI PMBOK, Agile methods, IPMA ICB, and APMG PRINCE. This paper will try to conduct a comparative analysis on the variety of the available frameworks and recommend each in specific application areas or purposes.

Keywords

Project Management Frameworks, PMBOK, PRINCE2, Agile, ISO, IPMA ICB.

1. Introduction

While most of the available project management frameworks and standards are adaptable and can be tailored for a specific project environment, still there can be circumstances that recommend one over another for a certain project. In addition, there have been several efforts to map the structures of some of these frameworks to each other for matching and interchangeability.

In this paper, I will highlight the prominent features of each of the most well known frameworks that make each more relevant and applicable within a specific environment or for a certain project case. We will not present or explore the structure and contents of any of the discussed frameworks, and readers can consult corresponding references for specific framework details.

2. PMBOK

PMI's PMBOK can be considered the most generic and traditional framework for project management. It's intended to be so in order to fit as wide spectrum of project cases as possible. Being initially developed and emerged from the construction field, it received more popularity and adoption between practitioners from that field. However, it's so wide spread and recognized that it's also normal and familiar to be applied to other fields like IT for example.

In addition, PMI made this spread more achievable by developing specialized PMBOK extensions to specific fields, like governmental projects extension, …etc.

The PMBOK has evolved over long years since it has been first issued, summoning the experiences and wisdom of several contributors over generations, so it's mature enough to pay attention to subtle points that could be overlooked otherwise. Of these points is Global Project Management, dealing with distributed project teams using virtual remote communication tools, these have been recognized by PMBOK as practices.

In addition, PMBOK is more suited to environments where team involvement in decision making is important. According to PMBOK, project team is involved in defining tasks, estimating effort and duration, sequencing and dependency, risk identification and handling, …etc, which are in some other frameworks mainly management tasks handled by the project manager and senior management team.

However, in case of medium to small projects, like most of IT projects for example, PMBOK seems so encompassing of extras that if literally applied would be bureaucracy, and excessive tailoring and adaptation would be required to keep only the effective and necessary to apply practices/processes.

3. PRINCE2

One of the distinguishing characteristics of OGC's PRINCE2 is separation between the Project Manager and Team Manager roles, making it more appealing and suitable for project managers who don't possess the soft skills and people skills necessary for leading and managing project staff directly.

On a similar line, the project stages (according to the project structure in PRINCE2) are classified to Management Stages and Technical Stages. This helps most in case of project managers who don't have field experience in the area of the project being managed, where the Technical Stages management can involve more technically experienced personnel or be delegated / assigned to team managers.

In PRINCE2, the project management authority is not fully assigned to the project manager; the Project Board is responsible for approving all plans and decisions in the project before being acted upon. The project manager reports to the Project Board for updates and receives approvals. The project manager is mainly responsible for the day-to-day management activities of the project. The Project Board may delegate authorities as appropriate to the project manager or other roles related to the project (e.g. Change Authority for change management). The Project Board can be thought of as the Project Office, with different roles and responsibilities assigned to the board members.

It is a business oriented approach for project management, because in PRINCE2 the Business Case behind undertaking the project is considered from the perception and initiation of the project and throughout the project life, with continuous updates and re-consideration of the project being continually desirable and viable.

PRINCE2 can be applied to stand alone projects or projects within programs. It doesn't, however, handle program management itself. It is easy to plug into portfolio management methodologies, as the Project Board reviews the project at project stage boundaries to decide and approve, among other things, whether the project is to be continued and resources (re)allocation. This is a typical project portfolio review purpose.

4. Agile Project Management

The Agile framework is well known to be more suited for software development and IT projects. According to Forrester Research, based on responses from an August 2009 survey, 35% of IT professionals say they have adopted agile processes. [6]

Agile can be generally recommended for not well-defined projects; as it is more geared towards information gathering and human interactions and meetings and transparent management and communication. Agile fits more projects with high change rate nature, due to the iterative approach of requirements gathering and phased product delivery to the customer. *"Agile isn't for every team or for every project. Agile works well when requirements are fuzzy, subject to change and where the customer wants to be involved."* [6]. It uses value-driven management / progress tracking according to value already delivered to and perceived by the customer; i.e. deliverable-based planning not activity- based.

In Agile, there is less authorization for the project manager role (scrum master), this role is even proposed to be eliminated through team self-organization and self-management. Team management in agile makes it more like a Social Project Management method, not overly structured work environment, by emphasizing the importance of the people factor in the success of project management, and incorporation of social elements in project management activities.

"Still, implementing agile doesn't have to be an all-or-nothing deal. People are often struggling between choosing agile or choosing traditional methods. Choose the one that makes sense … Each company and individual makes its own best practices when they adopt what produces results for them." [6]

5. IPMA's ICB

The IPMA Competence Baseline (currently in version 3.0) is as its name says, a competence based model used to build, assess, and certify the competency, knowledge, experience, and qualification of the project manager himself as the practitioner of the project management practices. It defines sets of competence elements, classified in three ranges, each addressing a certain area of skills; namely Contextual Competences, Behavioral Competences, and Technical Competences, combined in what's called the Eye of Competence. *"The Eye of Competence represents the integration of all the elements of project management as seen through the eyes of the project manager when evaluating a specific situation. The eye represents clarity and vision. After processing the information received, the competent and responsible professional in project management takes appropriate action."* [7].

It's based on four levels of certifications of increasing competency (the 4-L-C system), starting from level D as the lowest, up to level A as the highest. These levels range from inception and recognition of project management knowledge, to the top management level, passing by levels of project team members, sub-project managers, project managers, program managers, and portfolio managers. However, it may be considered a controversial point with this model that it requires a minimum number of years of experience to certify the candidate at a certain level, while the mix of competences may not necessarily be equivalent to the number of years of experience, as some professionals may be at a high competence level in some area with limited experience and vise versa.

It's worth mentioning that IPMA paid attention to cultural differences by allowing its national member associations to adapt the ICB to national versions (NCB's) that are more relevant to their local community.

The way the ICB presents the project management methods is somehow the other way around of the presentation in other frameworks which focus on the processes in consecutive project management phases, while the ICB focuses on the person who will be applying the activities of these processes (the project manager) and what and how he will be performing. *"The ICB doesn't recommend or include specific methodologies, methods, and tools … Methods and tools may be defined by the organization. The project manager should choose the appropriate methods and tools for a particular project situation."* [7].

Thus, the most appropriate usage of ICB is in evaluating and matching the project manager level and capabilities to the project size and degree of complexity as a best effort guarantee for project success. This is independent of industry, and applicable to almost every kind of project.

6. ISO Standards

6.1 ISO 10006 (Quality management systems - Guidelines for quality management in projects)

According to Wikipedia, also narrated from the standard document: *"ISO 10006:2003 gives guidance on the application of quality management in projects. It is applicable to projects of varying complexity, small or large, of short or long duration, in different environments, and irrespective of the kind of product or process involved. This can necessitate some tailoring of the guidance to suit a particular project. ISO 10006:2003 is not a guide to project management itself. Guidance on quality in project management processes is discussed in this International Standard."* [8] & [9]

This standard is part of the Quality Management Systems series of ISO standards. It goes through the several project management processes, and instead of explaining the steps of performing each process, it gives guidance and notes on how to guarantee a quality implementation of each process.

According to the standard itself: *"Since this international standard is a guidance document, it is not intended to be used for certification/registration purposes."* [9]. So, despite could be used for informal internal audit and evaluation purposes, it can't be used for formal assessment and certification. Alternatively, other models like the PMI's OPM3 or OGC's P3M3 can be used for such assessment and certification purposes.

A new "Project Management - Guide to project Management" ISO 21500 standard is currently under development.

6.2 ISO 21500 (Project Management - Guide to project Management)

"There has been a proliferation of sector specific standards worldwide which have had no overarching standard to set the generic principles and procedures of project management globally. In addition these standards have had no common vocabulary or processes that could be referenced by the global project management community resulting in different definitions and interpretations. To address these problems the International Standards Organization (ISO) has initiated work to create a new Standard entitled ISO 21500: Guide to Project Management. The Standard will provide a common platform which will become a reference point for all project management professionals and facilitate knowledge transfer and the harmonization of principles, vocabulary and processes in existing and future Standards." [10]. Thus, the new standard is not either intended for assessment and certification purposes; it's a guidance document.

The new standard is being developed by the Project Committee PC236, chaired by the British Standards Institute (BSI), and the secretariat is the American National Standards Institute (ANSI). It's formed of 3 Working Groups: WG1 (Terminology); WG2 (Processes); WG3 (Informative Guidance).

The Project Committee was formed in 2007, and was initially given until February 2010 to have the standard completed, reviewed, and ready for publication. However, the schedule has slipped due to the unexpected complexity of the project and the concerns received from committee members on the structure and technical content, which resulted in more working drafts being developed before moving to committee draft, delaying the whole schedule further, [11] & [12]. Currently the target publication date is end of August 2012, according to ISO website, [13].

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