

# **Global project management trends**

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## ***Abstract***

Most of the literature on project management has been used to explain the concepts and ideas related to project management, yet limited research has been done on project management trends. This paper presents the study of the application of project management to the practitioner's world from the project management trends' perspective. This research addresses the global project management trends to watch in the years of 2015, 2016 and 2017. Consequently, the research is dissected from the point of views of research approach; research results; and conclusions & recommendations: global project management trends.

**Keywords:** trends; predictions; prophecies; global project management.

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## ***Introduction***

Project and project management have been conceptualized from different points of view.

On one hand, the Project Management Association of Japan (PMAJ) defines a project as “the value creation undertaking based on a specific, which is completed in a given or agreed timeframe and under constraints, including resources and external circumstances” (PMAJ, 2005, p. 15). Similarly, the Association for Project Management (APM) defines a project as “a unique, transient endeavor undertaken to achieve a desired outcome” (APM, 2006, p. 150). Likewise, the Project Management Institute (PMI) defines a project as “a temporary endeavor undertaken to create a unique product, service, or result” (PMI, 2013, p. 553). Correspondingly, the Cabinet Office via the APM Group (APMG) International highlights in PRINCE2 that a project is “a temporary organization that is created for the purpose of

delivering one or more business products according to an agreed Business Case” (OGC, 2009, p. 309). Furthermore, the International Project Management Association (IPMA) defines a project as “a time and cost constrained operation to realise a set of defined deliverables (the scope to fulfil the project’s objectives) up to quality standards and requirements” (IPMA, 2006, p. 13). The goal of a project is to “produce the deliverables defined in the business case” (IPMA, 2006, p. 14).

On the other hand, the concept of project management is represented in various forms, PMAJ describes project management as “the professional capability to deliver, with due diligence, a project product that fulfills a given mission, by organizing a dedicated project team, effectively combining the most appropriate technical and managerial methods and techniques and devising the most efficient and effective work breakdown and implementation routes” (PMAJ, 2005, p. 16). Additionally, the APM defines project management as “the process by which projects are defined, planned, monitored, controlled and delivered so that agreed benefits are realized” (APM, 2006, p. 151). PMI introduces project management as “the application of knowledge, skills, tools and techniques to project activities to meet the project requirements” (PMI, 2013, p. 554). In PRINCE2, project management is defined as “the planning, delegating, monitoring and control of all aspects of the project, and the motivation of those involved, to achieve the project objectives within the expected performance targets for time, cost, quality, scope, benefits and risks” (OGC, 2009, p. 309). At the same time, IPMA delineates project management as “the planning, organising, monitoring and controlling of all aspects of a project and the management and leadership of all involved to achieve the project objectives safely and within agreed criteria for time, cost, scope and performance/quality” (IPMA, 2006, p. 128). Correspondingly, it is “crucial to optimise the parameters of time, cost and risk with other requirements and to organise the project accordingly” (IPMA, 2006, p. 128).

This paper is organized into the following sections: (a) research approach; (b) research results; (c) conclusions & recommendations: global project management trends.

# ***Research Approach***

The research approach adopted in this study is denoted with the following subsections: literature review, unit of analysis, sample, and methodology used.

## **Literature Review**

The Literature Review is “one of the most important parts of any piece of academic writing” (Oliver, 2012, p. 1). It refers to a “systematic examination of knowledge available on a topic” (Dawidowicz, 2010, p. 2). As a matter of fact, the Literature Review “offers multiple opportunities to engage and interact with theory” (Booth, Papaioannou, & Sutton, 2012, p.12).

The literature review of this study is basically originated from the APMG International; PMI; Scrum Alliance; IPMA; International Institute of Business Analysis (IIBA); Green Project Management (GPM); Association for the Advancement of Cost Engineering International (AACE International); APM; the International Organization for Standardization (ISO); University of Manchester; Henley Management College; Cranfield School of Management; Drexel University; and SKEMA Business School.

## **Unit of Analysis**

The unit of analysis is “the major entity that is being analyzed in a study”. The unit of analysis is “the ‘what’ or ‘who’ that is being studied”; it includes “individuals (most common), groups, social organizations and social artifacts” (Wikipedia, 2014a, n.p.). Therefore, the units of analyses are “those things we examine in order to create summary descriptions of all such units and to explain differences among them” (Babbie, 2008, p. 105).

Depending on the complexity of the research, it is possible to have several units of analyses at the same time. During our research, we identified two units of analyses to be studied. The first unit of analysis utilized was essentially the relationship of the practitioner with his/her corresponding achieved certification. And the second unit of analysis was the relationship of the university with their first doctorate degrees in project management.

We should thoroughly inspect and compare multiple units of analysis. Doing so will allow us to ascertain an appropriate level of analysis for different variables. “Rather than limiting ourselves to one unit of analysis, however, we should systematically examine and compare multiple units of analysis” (Kunovich, 2013, pp. 119 - 122).

# Sample

“In statistics and quantitative research methodology, a data sample is a set of data collected and/or selected from a statistical population by a defined procedure” (Wikipedia, 2014b, n.p.). A sample is actually the “subset of population selected from a frame to draw inferences about a population characteristic” (Singh, & Naurang Singh, 1996, p. 5). As a result, the sample is the “subset of the population elements that results from a sampling strategy” (Dattalo, 2007, p. 1).

In this study, the certifications sample was originated from the answers of the specific two-question emails replied by the executives of APMG International; PMI; Scrum Alliance; IPMA; IIBA; GPM; and AACE International.

The following requests were highlighted as part of the emails:

- The number of people that are presently certified, and
- Any projections for 2015 on the number of people that would be certified.

It is important to underline that in some particular cases the information's about the certifications were confidential or were not available for the year 2014 (presently certified) and the projections did not exist for the year 2015 (people that would be certified). Consequently, we had to use the number of people that were presently certified as 2013. It is out of scope of this paper to make any comparison analysis among the certification bodies and their certification qualifications. Similarly, several confidentiality aspects of such certification bodies and their qualifications are properly maintained.

The samples corresponding to the universities are derived from the literature review. The applicable confidentiality matters of the universities are correctly maintained.

# Methodology

A Methodology is “the analysis of the principles or procedures of inquiry in a particular field” (Merriam-Webster Dictionary, 2014d, n.p.). In this paper, a methodology refers to a research methodology, which is a “way to systematically solve the research problem” (Kothari, 2004, p. 8). The research methodology is therefore visualized as a “system of models, procedures, and techniques used to find the results of a research problem” (Panneerselvam, 2004, p. 2).

In order to be able to justify the research methodology used in this study, it was necessary to refer to the work of Bryman (2004), where he presented the fundamental differences between quantitative and qualitative research strategies. Accordingly, the aim of this research was to foresee the global project management trends to watch in the next triennium. A mixed method approach was taken to design the research. The first part of the research protocol dealt with the practitioners and their achieved certifications. The second part of the research protocol took into considerations the universities and their first doctorate degrees in project Management.

## ***Research Results***

The research results produced in this study are structured into the following subsections: professional certifications; standards, study materials, and resources; agile project management; project governance; green project management; and the first doctorate degrees in project management.

### **Professional Certifications**

The achieved certifications used to show the professional growth of the project management industry are depicted in the following paragraphs.

#### ***APMG International***

APMG International created the certifications of PRINCE2 Foundation; PRINCE2 Practitioner; PRINCE2 Professional; Managing Successful Programmes (MSP) Foundation; MSP Practitioner; MSP Adv. Practitioner; Management of Risk (M\_o\_R) Foundation; M\_o\_R Practitioner; Portfolio, Programme and Project Offices (P3O) Foundation; P3O Practitioner; Management of Portfolios (MoP) Foundation; MoP Practitioner; Agile Project Management (AgilePM) Foundation; AgilePM Practitioner; Earned Value Management (EVM) Foundation; and EVM Practitioner (APMG International, 2014).

An email from APMG International's Service Desk indicating an estimation of the numbers of people certified by APMG International (S. Marincheva, personal communication, August 21, 2014) was used as a reference to create Figure 1 as of 2013. Nevertheless, it is important to point out that the certification numbers are continuously updated by the APMG International because of the new certified people.

The results indicated that there were 753250 people certified as PRINCE2 Foundation; 343500 people certified as PRINCE2 Practitioner; 40 practitioners certified as PRINCE2 Professional; and 53750 individuals certified as MSP Foundation. Equally, there were 32750 persons certified as MSP Practitioner; 8200 people certified as MSP Adv. Practitioner; 11100 persons certified as M\_o\_R Foundation; and 6150 persons certified as M\_o\_R Practitioner. Likewise, there were 6050 individuals certified as P3O Foundation; 2250 individuals certified as P3O Practitioner; 2900 persons certified as MoP Foundation; and 1500 persons certified as MoP Practitioner. Similarly, there were 5300 people certified as AgilePM Foundation; 3890 people certified as AgilePM Practitioner; 700 individuals certified as EVM Foundation; and 20 people certified as EVM Practitioner.



Figure 1. APMG International Certified Professionals as of 2013

## **PMI**

PMI created the certifications of Certified Associate in Project Management (CAPM)®; Project Management Professional (PMP)®; Program Management Professional (PgMP)®; PMI Risk Management Professional (PMI-RMP)®; PMI Scheduling Professional (PMI-SP)®; and PMI Agile Certified Practitioner (PMI-ACP)® (PMI, 2014a).

An email from PMI's Customer Care indicating the estimation of the numbers of people certified by PMI (J. Falu, personal communication, September 02, 2014) was used as a reference to create Figure 2 as of July 31, 2014. It is important to indicate that the certification numbers are always changing do to the dynamics of new certified professionals.

The results indicated that there were 25450 people certified as CAPM®; 627844 people certified as PMP®; 1077 practitioners certified as PgMP®; 2837 practitioners certified as PMI-RMP®; 1201 persons certified as PMI-SP®; and 6221 individuals certified as PMI-ACP®.

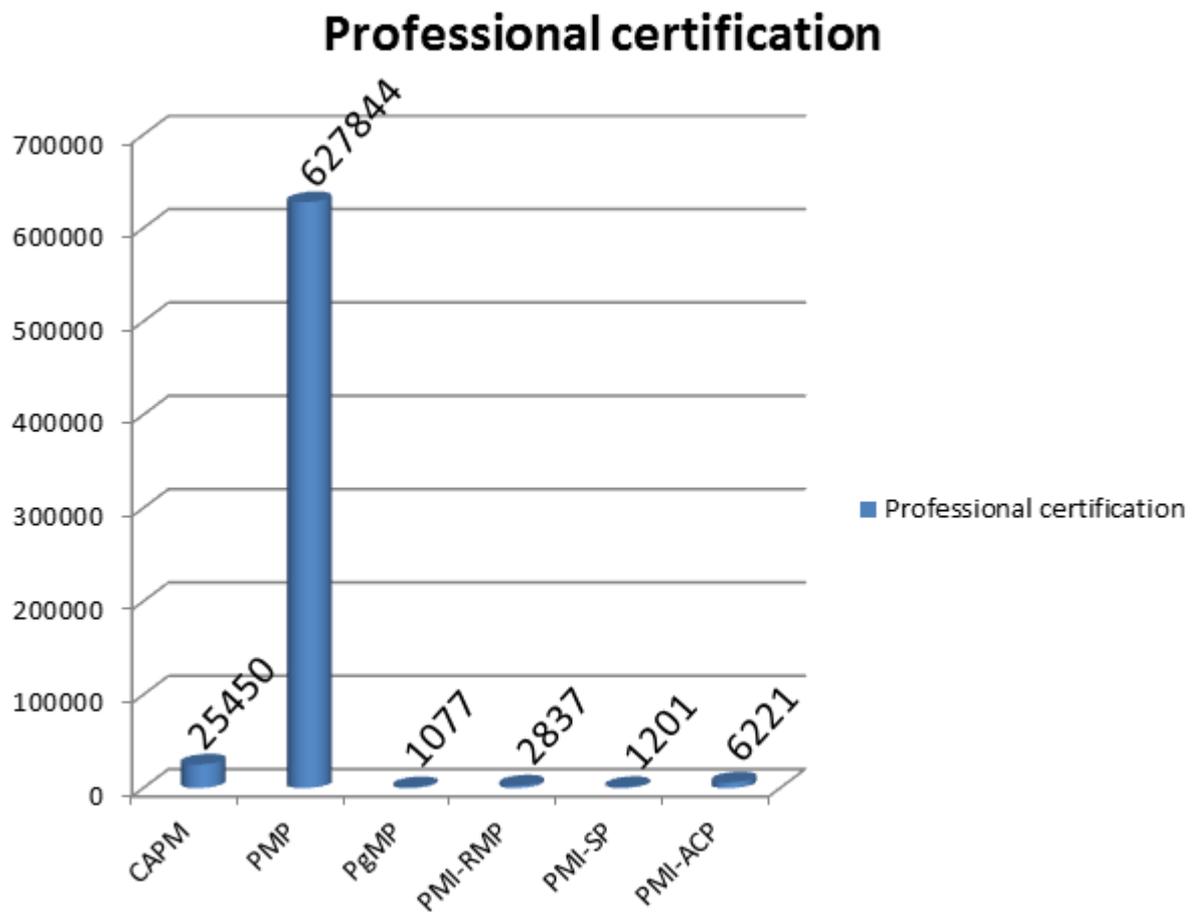


Figure 2. PMI Certified Professionals as of July 31, 2014

## Scrum Alliance

Scrum Alliance (2014b) created the certifications of Certified ScrumMaster® (SCM); Certified Scrum Product Owner® (CSPO); Certified Scrum Developer® (CSD); Certified Scrum Professional® (CSP); Certified Scrum Trainers® (CST); and Certified Scrum Coaches® (CSC).

An email from the Scrum Alliance with an estimation of the numbers of people certified by the Scrum Alliance (K. McKinney, personal communication, August 27, 2014) was used as a reference to create Figure 3 as of June 30, 2014. It is important to highlight that the certification numbers are always changing do to the dynamics of the new certified people.

The results indicated that there were 293998 people certified as SCM; 54509 people certified as CSPO; 8628 practitioners certified as CSD; 2525 individuals certified as CSP; 171 persons certified as CST; and 60 individuals certified as CSC.

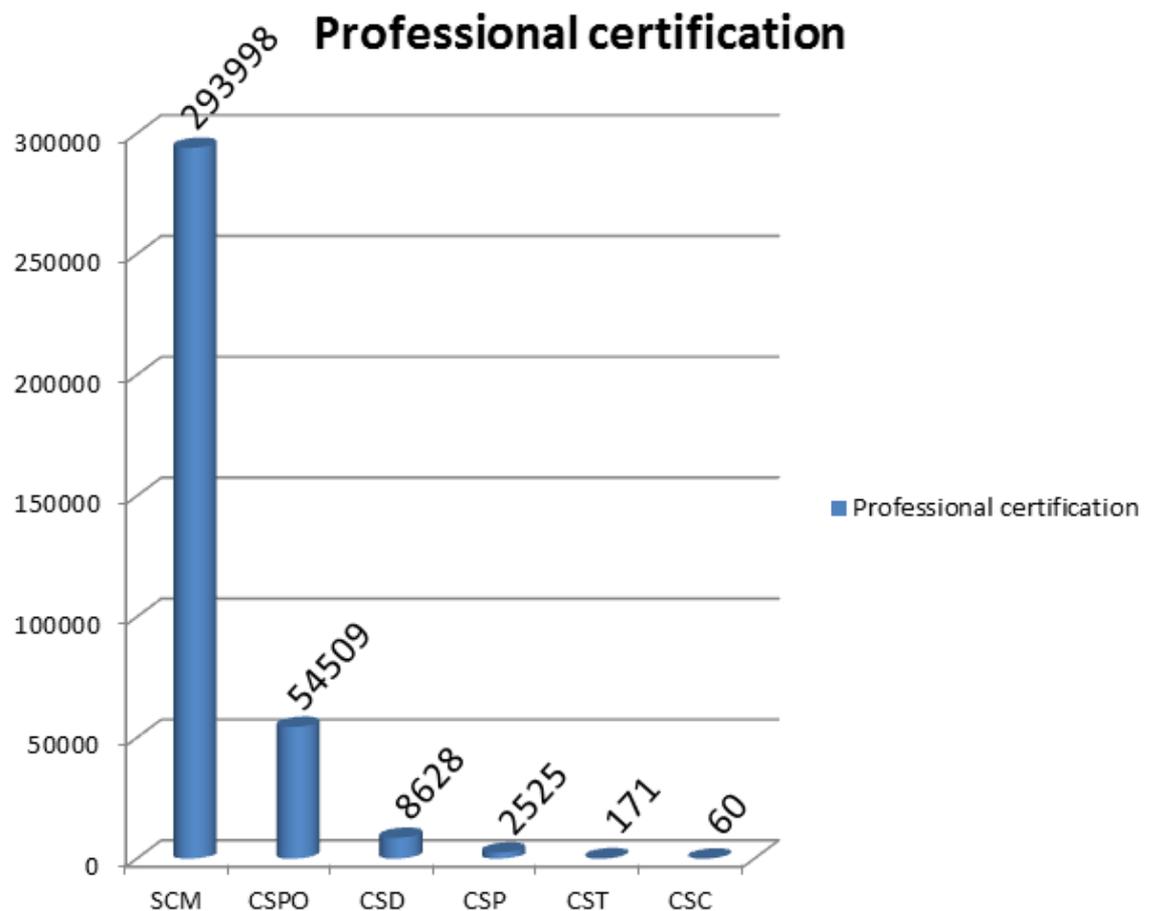


Figure 3. Scrum Alliance Certified Professionals as of June 30, 2014

## **IPMA**

IPMA developed the following four level certifications (4-L-C): Level A – Certified Projects Director; Level B – Certified Senior Project Manager; Level C – Certified Project Manager; and Level D – Certified Project Management Associate (Van Haren Publishing, 2014).

An email from IPMA's VP of Marketing & Events with an estimation of the numbers of people certified by IPMA (S. Goff, personal communication, August 17, 2014) was used as a reference to create Figure 4 as of 2013. Nevertheless, it is important to point out that the certification numbers are continuously updated by IPMA because of the new certified people.

The outcomes indicated that there were 588 people certified as Level A; 10690 people certified as Level B; 49027 people certified as Level C; and 134420 persons certified as Level D.

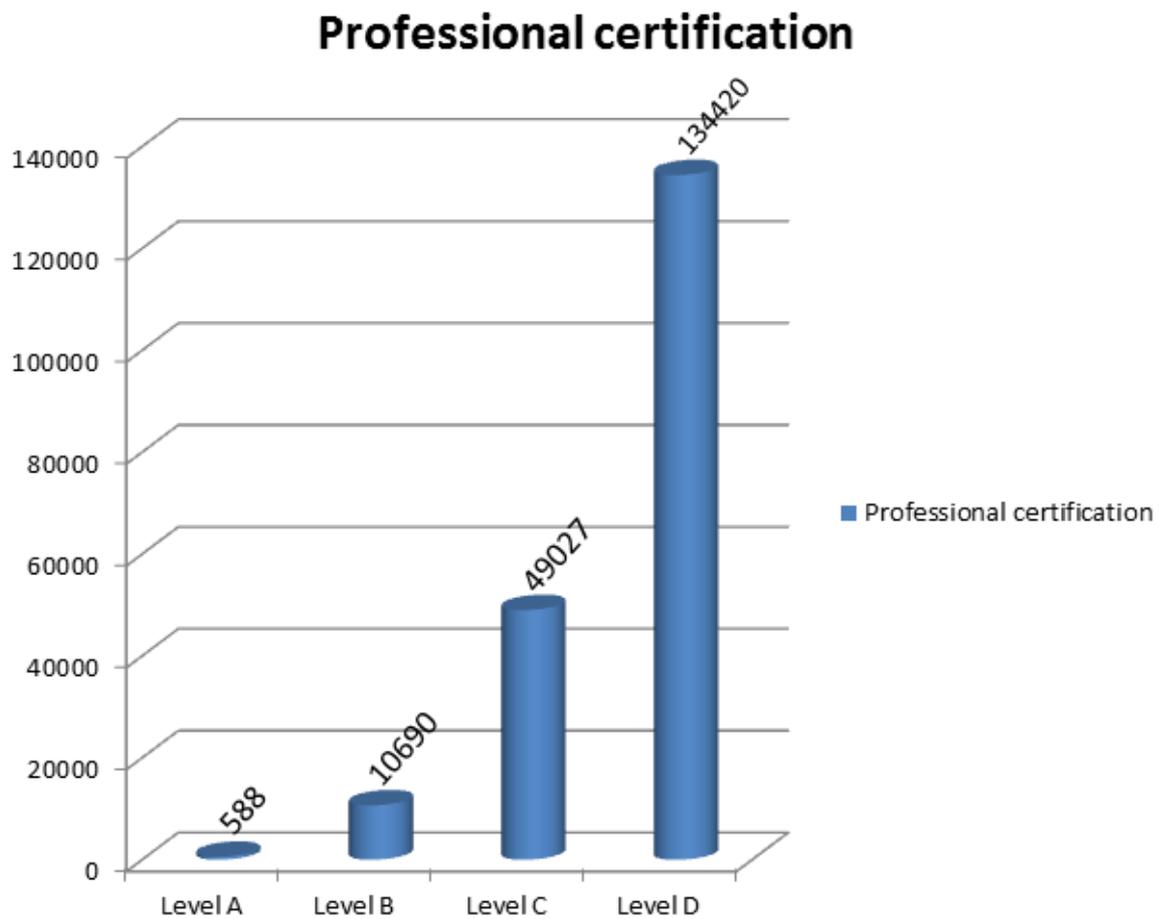


Figure 4. IPMA Certified Professionals as of 2013

## ***IIBA***

IIBA (2014b) developed the certifications of Certified Business Analysis Professional™ (CBAP®); and Certification of Competency in Business Analysis™ (CCBA®).

The IIBA's Certification Administrator recommended us to proceed estimating the number of people certified by IIBA (G. Deutschlander, personal communication, September 3, 2014). Accordingly, it was reviewed the "CBAP Registry: 4232" and "CCBA Registry: 618" in the IIBA website.

The aforementioned data was used as a reference to create Figure 5 as of September 3, 2014. Nevertheless, it is important to point out that the certification numbers are continuously changing due to IIBA's dynamic certification process.

The outcomes indicated that there were an estimation of 4232 people certified as CBAP®; and 618 people certified as CCBA®.

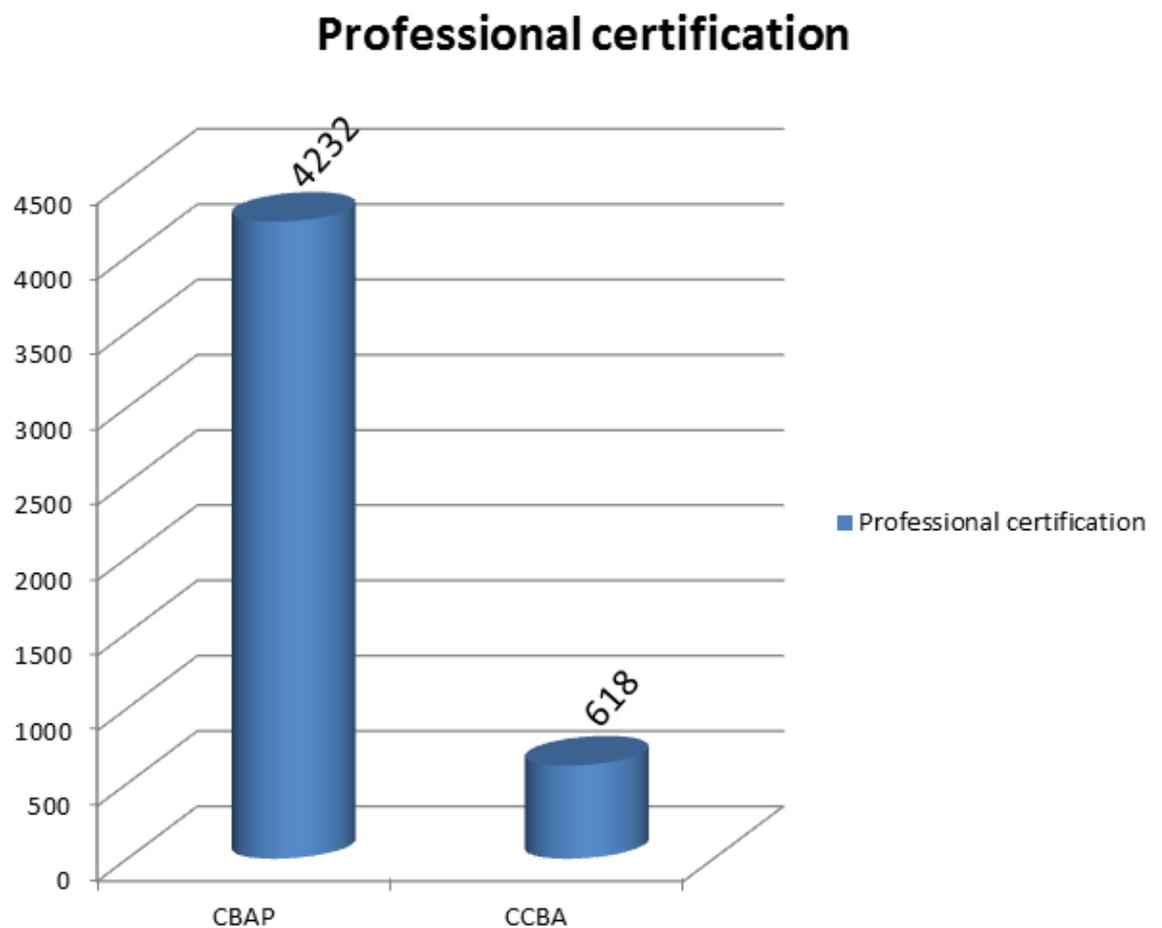


Figure 5. IIBA Certified Professionals as of September 3, 2014

## Green Project Management

GPM (2014) developed the certifications of Certified Green Project Manager-b (GPM-b), Green Project Manager (GPM®), and Certified Green Project Manager-m (GPM-m).

An email with an estimation of the numbers of people certified by the Green Project Management (J. Carboni, personal communication, December 22, 2014) was used as a reference to create Figure 6 as of December 22, 2014. However, the certification numbers are continuously updated by the Green Project Management because of the new certified people.

The outcomes indicated that there were 176 people certified as GPM-b; 19 people certified as GPM®; and 4 persons certified as GPM-m.

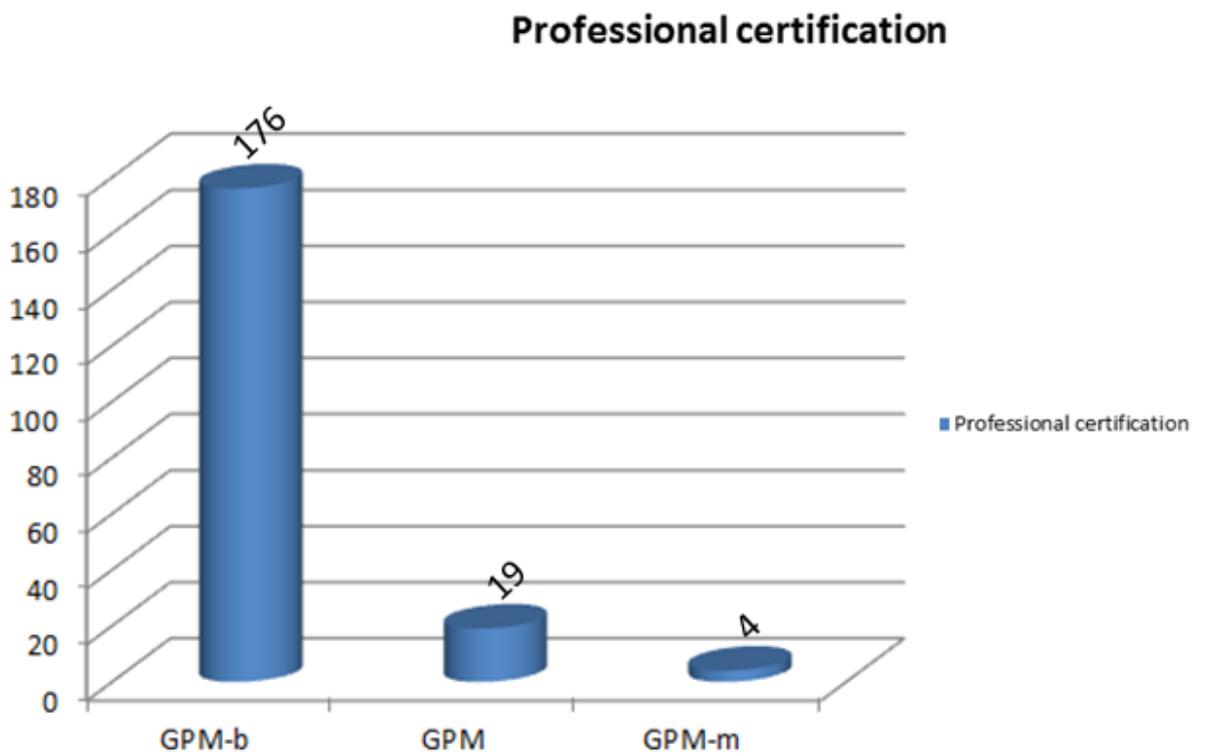


Figure 6. The Green Project Management Certified Professionals as of December 22, 2014

## ***AACE International***

AACE International (2014a) developed the certifications of Certified Cost Technician (CCT); Certified Scheduling Technician (CST); Certified Cost Professional (CCP); Certified Estimating Professional (CEP); Certified Forensic Claims Consultant (CFCC); Decision & Risk Management Professional (DRMP); Earned Value Professional (EVP); and Planning & Scheduling Professional (PSP).

The AACE International's Certification Manager recommended us to proceed estimating the number of people certified by AACE International (P. Whoolery, personal communication, November 5, 2014). Consequently, it was reviewed the Certified Individuals (Directory) for CCT; CST; CCP; CEP; CFCC; DRMP; EVP; and PSP in the AACE International website.

According to the AACE International's Certification Manager, the latest AACE International's data was available to us under the assumption that the data is an approximately data (P. Whoolery, personal communication, November 5, 2014).

The abovementioned data was used as a reference to create Figure 7 as of November 9, 2014. Nevertheless, it is important to point out that the certification numbers are continuously changing due to the AACE International's new certified people.

The results indicated that there were 364 people certified as CCT; 17 people certified as CST; 1904 practitioners certified as CCP; 190 individuals certified as CEP; 70 persons certified as CFCC; 20 individuals certified as DRMP; 472 people certified as EVP; and 1053 practitioners certified as PSP.

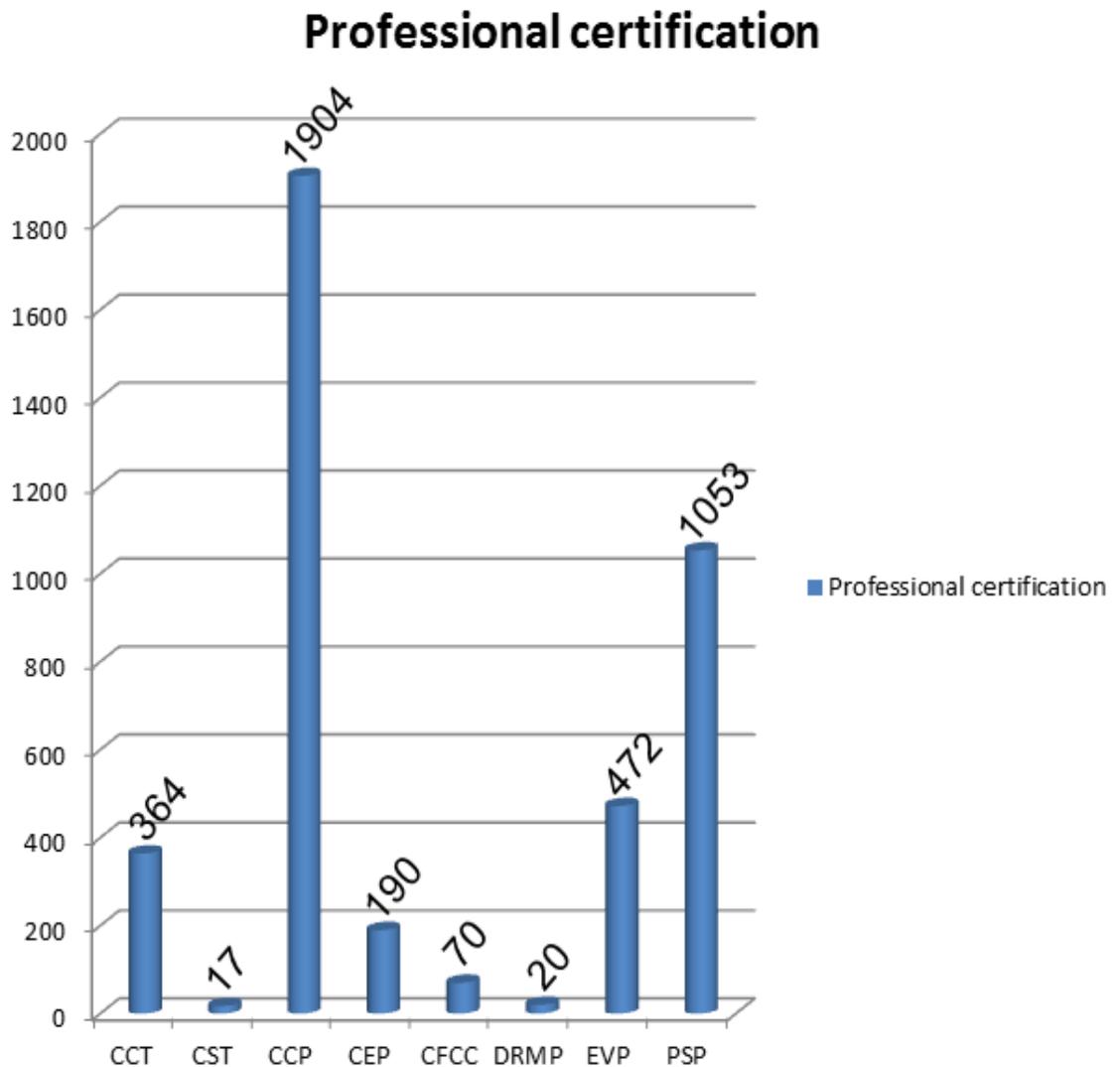


Figure 7. AACE International Certified Professionals as of November 9, 2014

# Standards, Study Materials, and Resources

A standard is a “measuring stick or the means by which something else is judged” (Bragg, 2009, n.p.).

Likewise, a standard is “something that is very good and that is used to make judgments about the quality of other things” (Merriam-Webster Dictionary, 2014b, n.p.). In a nutshell, the standard is “something that others of a similar type are compared to or measured by, or the expected level of quality” (Cambridge Dictionaries Online, 2014b, n.p.).

Morris, & Pinto (2007) further address the idea that in order for the standards to come into play do not need to be officially endorsed, but they can be voluntarily accepted.

In the world of project management, “there is a very strong link between the definition of a project management body of knowledge and the development of standards” (Morris, & Pinto, 2007, p. 208).

The project management body of knowledge provides advice and guidance on how to manage individual projects, and describes project management related ideas (PMI, 2013). As a result, the project management bodies of knowledge are usually treated as standards, and are things that the project manager practitioners are expected to know (Morris, & Pinto, 2007).

The study material is the power to get knowledge using something, such as an idea or information (American Heritage Dictionary, 2014a). Similarly, the study material means to look at something carefully to study about it, and it is used when writing something such as a book, or information generated to assist people or to market products (Cambridge Dictionaries Online, 2014a). The study material is something that a person studies or gives attention to, having real importance or great significance (Merriam-Webster Dictionary, 2014a).

A resource is “something that is available for use or that can be used for support or help.” (American Heritage Dictionary, 2014b, n.p.). Similarly, a resource is “a place or thing that provides something useful” (Merriam-Webster Dictionary, 2014c, n.p.). Correspondingly, a resource is “something that can be used to help you” (Cambridge Dictionaries Online, 2014c, n.p.).

In this paper, the terms standards, study materials, and resources are perfectly applicable to the domains of: project management; program management; and portfolio management.

As you will see further, there are cases in where the standards, study materials, or resources are required to help you to achieve a professional certification. A very good example of these cases are presented as follows:

## ***APMG International***

Looking at the people certified as PRINCE2 Foundation and the individuals certified as PRINCE2 Practitioner, Managing Successful Projects with PRINCE2 2009 (OGC, 2009) is the leading standard of the APMG International's certified professionals. The 2009 edition covers the PRINCE2 principles; PRINCE2 themes; PRINCE2 processes; tailoring PRINCE2 to the project environment; roles and responsibilities, and governance.

## ***PMI***

Taking into consideration the individuals certified as PMP and the people certified as CAPM, A Guide to the Project Management Body of Knowledge (PMBOK® Guide), Fifth Edition (PMI, 2013) is the leading standard of PMI's certified professionals. This standard consists of five process groups and ten knowledge areas. The five process groups are: initiating process group, planning process group, executing process group, monitoring and controlling process group, and closing process group. The ten knowledge areas are: 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; and project stakeholder management.

## ***Green Project Management***

Using as reference the practitioners certified as GPM-b, the standards (GPM, 2014) that are most used by the Green Project Management's certified professionals are: ISO 21500 Guidance on Project Management; ISO 50001 The Energy Management Standard; ISO 14001 The Environmental Management Standard; ISO 9001 Principles of Quality Management; ISO 26000 Guidance on Social Responsibility; PRiSM™ (Projects Integrating Sustainable Methods) Project Methodology; GPM Reference Guide to Sustainability in Project Management; and GPM P5™ Standard for Sustainability in Project Management.

## ***IIBA***

Looking at the individuals certified as CBAP and the people certified as CCBA, A Guide to the Business Analysis Book of Knowledge® (BABOK® Guide), Version 2.0 (IIBA, 2009) is the leading standard of IIBA's certified professionals. BABOK has the following knowledge areas: business analysis planning and monitoring; elicitation; requirements management and communication; enterprise analysis; requirements analysis; solution assessment and validation; and underlying competencies.

## ***IPMA***

The ICB is the standard used in the IPMA's 4-L-C system (Van Haren Publishing, 2014).

As a result, the ICB, version 3.1 is the leading standard of IPMA.

## ***AACE International***

Based on the people certified as CCP and the individuals certified as PSP, the main study materials available to help you with the CCP certification and the PSP certification (AACE International, 2014a) are the followings:

**CCP.** AACE International CCP Certification Study Guide; AACE Recommended Practices; AACE's Skills & Knowledge of Cost Engineering, 5th Edition; and AACE's Total Cost Management Framework.

**PSP.** AACE International's Planning and Scheduling Certification Study Guide; AACE's Skills & Knowledge of Cost Engineering, 5th Edition; AACE's Total Cost Management Framework; CPM in Construction Management, 5th Edition; Construction Planning and Scheduling 2nd Edition; and Project Management: A Systems Approach to Planning, Scheduling, and Controlling.

## ***Scrum Alliance***

Taking into consideration the number of practitioners certified as CSM, the primary Scrum resources available to help you with the CSM certification are categorized into four types, namely: member articles; special reports; suggested reading; and global scrum gathering presentations (Scrum Alliance, 2014a):

**Member Articles.** These are the following: Transitioning to Agile; Scrum: the Unity of Knowing and Doing; and Traditional and Agile Methods: An Interpretation.

**Special Reports.** These are: 2013 State of Scrum Report; and Membership Statistics, June 2014.

**Suggested Reading.** These are: Agile Atlas; Scrum Guide; Do Better Scrum; Scrum topic pages; The Scrum Primer; and The Scrum Papers.

**Global Scrum Gathering presentations.** These are the following: Making the Entire Organization Agile; Managing a Collaborative Multi-national Team in Real-Time Using Agile/Lean/Scrum/XP; Building a 100-MPG Road Car in Three Months; and Focus and the Four Flows.

# Agile Project Management

The vibrant concept of agile project management is portrayed as “the management of software projects that are developed using various agile frameworks such as eXtreme Programming (XP) and Scrum” (Hoda, Noble, & Marshall, 2008). Nevertheless, agile project management also includes additional agile frameworks such as: crystal family of methodologies; feature driven development; rational unified process; dynamic system development method; adaptive software development; open source software development; agile modeling; pragmatic programming (Abrahamsson, Salo, Ronkainen, & Warsta, 2002); and others. It is essential to point out that all the agile frameworks are important.

However, in this paper we are focused on the Scrum framework. Scrum is “an Agile framework for completing complex projects. Scrum originally was formalized for software development projects, but it works well for any complex, innovative scope of work” (Scrum Alliance, 2014c, n.p.).

# Project Governance

Project governance is the link between project management and corporate governance (Alvarez-Dionisi, & Turner, 2012).

According to Alvarez-Dionisi (2008), project governance is “the process-driven system that allows management, shareholders, board of directors, and other stakeholders to have timely, relevant, reliable, and transparent information on all enterprise investments made via projects, programs and portfolios. Project governance is a subset of corporate governance by which projects, programs, and portfolios are directed and controlled, in order to implement the organization’s strategy.”

The project manager is responsible for project governance, and the executive management and board of directors are accountable for project governance (Alvarez-Dionisi, & Turner, 2012).

Therefore, project governance guarantees that the board of directors and senior management are capable to share and exercise ultimate accountability, transparency, and disclosure on material matters of the enterprise investments made via projects, programs, and portfolios (Alvarez-Dionisi, & Turner, 2012).

# Green Project Management

The emerging definition of green project management® (GPM) refers to “the inclusion of SUSTAINABLE methods to the process by which projects are defined, planned, monitored, controlled and delivered” (Bridgit, 2013, n.p.).

According to Dr. Joel Carboni, President - GPM Global, (J. Carboni, personal communication, September 25, 2014), the sustainable principles of the Green Project Management includes the followings:

1. **Commitment & Accountability** - Recognizing the essential rights of all to healthy, clean and safe environments, equal opportunity, fair remuneration, ethical procurement, and adherence to rule of law;
2. **Ethics & Decision Making** - Supporting organizational ethics, decision making with respect for universal principles through identification, mitigation, and the prevention of adverse short and long-term impacts on society and the environment;
3. **Integrated & Transparent** - Fostering the interdependence of economic development, social integrity, and environmental protection in all aspects of governance, practice and reporting;
4. **Principal & Values Based** - Conserving and enhancing our natural resource base by improving the ways in which we develop and use technologies and resources;
5. **Social & Ecological Equity** - Assessing human vulnerability in ecologically sensitive areas and centres of population through demographic dynamics; and
6. **Economic Prosperity** - Establishing fiscal strategies, objectives, and targets that balance the needs of stakeholders, including immediate needs and those of future generations.

Dr. Joel Carboni has also indicated that “from a practical standpoint, Green Project Management aims to maximize the social, economic and environmental value that the project’s objective or resulting asset brings. It also aims to minimize negative impact [economic (macro or micro), social and environmental] from the method and technique.”

# The First Doctorate Degrees in Project Management

The doctorate degrees represent a truly love for wisdom, and in most countries they qualify you to teach a particular topic at the university level or to work in the specific job in a selected field (Haidar, H., 2014).

As a matter of fact, in the world of project management, we are able to find these types of degrees. Therefore, in this section, we look at the beginning of such degrees.

According to Anbari, Bredillet, & Turner (2008), the first doctorate degrees in the area of project management were done in engineering and construction in the late 1960s at the University of Manchester in the Faculty of Technology (these degrees were conferred in 1971 and 1972). In the same manner, the first doctorate degrees in project management in a business school were done during the 1980s at Henley Management College, and the Cranfield School of Management. Thus, Europe has played a key role in growing of project management as an academic field. Similarly, the first doctorate degree in project management in a business school in the USA was done in the 1990s at Drexel University, Department of Decision Sciences (the degree was conferred in 1993).

In the same way, the first doctorate degree that combines the domains knowledge of strategy, program management, and project management was done in 2004 at ESC Lille School of Management (now SKEMA Business School) in Lille, France.

It is important to highlight that nowadays there are other universities across the world that are offering doctorate degrees in project management; however, such universities and their corresponding degree programs are out of the scope of this study.

## ***Conclusions & Recommendations:***

### ***Global Project Management Trends***

This section is organized into the following subsections: trend #1: Green Project Management exponential growth; trend #2: Scrum Alliance fast-tracked growth; trend #3: PMI evolution; trend #4: AACE International evolution; Trend #5: IPMA progressive growth; trend #6: IIBA evolution; trend #7: APMG International rapid growth; trend #8: project management standards; trend #9: project governance standards; trend #10 Scrum Alliance resources; trend #11: AACE International study materials; trend #12: Green Project Management standards; trend #13: IIBA standard; trend #14: increase of project management education, & training; trend #15: increase of program management, & portfolio management education, & training; trend #16: increase the use of PMO organizations; trend #17: spread out of agile project management; trend #18: proliferation of Green Project Management; trend #19: understanding the importance of project governance; trend #20: business analysis substantial growth; trend #21: GAPPS standards; trend #22: APMG International standard; trend #23: PMI standard; trend #24: IPMA standard, and further research.

### **Trend #1: Green Project Management Exponential Growth**

Sustainable methods and ecological safety of the environment are key success factors in today's ever-changing business world. Consequently, given the strategic importance of the green project management idea, the Green Project Management will experiment an exponential growth of its certification's base.

### **Trend #2: Scrum Alliance Fast-tracked Growth**

The Scrum framework will remain a very effective and easy to adopt agile method for many IT and non-IT companies across the globe. As a result, the Scrum Alliance will continue with a very fast-tracked growth of its certification numbers.

Nonetheless, the Scrum Alliance has to face competitors such as PMI with its PMI-ACP certification, and the APMG International with its two agile certifications: AgilePM Foundation and AgilePM Practitioner.

## **Trend #3: PMI Evolution**

PMI is an organization that was founded in 1969, and has been around for over 40 years (PMI, 2014c). PMI is “the world’s leading not-for-profit professional membership association for the project, program and portfolio management profession” (PMI, 2014b, n.p.). As a result, PMI’s certification numbers are very solid, with a rock solid historical background.

However, growing the certification numbers represent a key success factor for all the stakeholders involved.

It appears that the new PMI’s Portfolio Management Professional Certification (PfMP), and PMI Professional in Business Analysis Certification (PMI-PBA) are able to contribute in growing the PMI’s certification numbers.

Nevertheless, we believe that the current PMPs base represent a possible avenue for growing the certification numbers.

This means that if PMI finds a fast-pace mechanism for the existing PMPs to earn the PgMP, PfMP, PMI-PBA, and others; it will definitely contribute to increase the PMI’s certification numbers. What is missing is to find a fast pathway for the current PMPs to earn additional PMI’s certifications.

## **Trend #4: AACE International Evolution**

AACE International is an organization that was chartered in 1956 as the American Association of Cost Engineers (AACE International, 2014c). AACE International’s vision is to be the “recognized technical authority in cost and schedule management for programs, projects, products, assets, and services” (AACE International, 2014b, n.p.).

We have projected that AACE International will continue with its normal growth.

## **Trend #5: IPMA Progressive Growth**

IPMA is a Federation of over 55 Member Associations (MAs). IPMA was founded in 1965, and has been around for over 45 years (IPMA, 2014). As a result, IPMA is a very solid entity.

We have foreseen that IPMA will continue with its progressive growth worldwide.

## **Trend #6: IIBA Evolution**

IIBA was founded in 2004 (IIBA, 2014a), and has been around for 10 years. We have projected that IIBA will continue growing its certification base. However, IIBA has to face PMI as competitor with its latest certification of PMI-PBA.

## **Trend #7: APMG International Rapid Growth**

APMG International has shown its capabilities to grow the project management profession. It is not doubt about its hard work done. The PRINCE2 certification numbers speak for themselves.

We have anticipated that APMG International will continue its rapid growth; hence, its certification base will increase.

## **Trend #8: Project Management Standards**

We envision that the following standards will continue to be the most useful standards of the project management industry:

- Managing Successful Projects with PRINCE2 2009 (OGC, 2009);
- PMBOK® Guide, Fifth Edition (PMI, 2013);
- The ICB, version 3.1 (IPMA, 2009); and
- A Framework for Performance Based Competency Standards for Global Level 1 and 2 Project Managers (GAPPS, 2009).

## **Trend #9: Project Governance Standards**

We foresee that the following standards are the most valuable standards of the project governance world:

- Directing Change: A Guide to Governance of Project Management, 2<sup>nd</sup> Edition (APM, 2011);
- Co-Directing Change: A Guide to the Governance of Multi-Owned Projects (APM, 2007); and
- Sponsoring Change: A Guide to the Governance Aspects of Project Sponsorship (APM, 2009).

## **Trend #10: Scrum Alliance Resources**

We foresee that the Scrum Alliance resources previously identified (member articles; special reports; suggested reading; and global scrum gathering presentations) will continue to be the most useful resources of the Scrum professionals.

## **Trend #11: AACE International Study Materials**

We anticipate that the AACE International Study Materials earlier identified (for CCP and PSP) will continue to be the most useful resources of the AACE International professionals in cost and schedule management.

## **Trend #12: Green Project Management Standards**

We envision that the following standards will continue to be the most useful standards in the Green Project Management landscape:

- ISO 21500 Guidance on Project Management;
- ISO 50001 The Energy Management Standard;
- ISO 14001 The Environmental Management Standard;
- ISO 9001 Principles of Quality Management;
- ISO 26000 Guidance on Social Responsibility;
- PRiSM™ (Projects integrating Sustainable Methods) Project Methodology;
- GPM Reference Guide to Sustainability in Project Management; and
- GPM P5™ Standard for Sustainability in Project Management.

## **Trend #13: IIBA Standard**

We visualize the BABOK® Guide (IIBA, 2009) as the most useful standard of the IIBA's business analysis community.

## **Trend #14: Increase of Project Management Education, & Training**

While this research does not include the study of the master's in project management, we visualize a significant growth of professionals studying a Master of Science (MSc) in project management or a Master of Business Administration (MBA) in project management.

Individuals will also be interested in pursuing doctorate degrees in project management, but in less proportion than the master degree students.

Nevertheless, it is important to highlight that the majority of people will go for project management international certifications programs.

We envision that companies will invest more on project management education and training programs all over the world.

## **Trend #15: Increase of Program Management, & Portfolio Management Education, & Training**

We visualize that companies will invest more resources on program management and portfolio management education and training programs worldwide.

## **Trend #16: Increase the Use of PMO Organizations**

The PMO idea will be widely promoted and encourage everywhere.

## **Trend #17: Spread out of Agile Project Management**

Agile project management will be spread out worldwide.

## **Trend #18: Proliferation of Green Project Management**

We will see a proliferation of Green Project Management across the world.

## **Trend #19: Understanding the Importance of Project Governance**

Senior management and board of directors will begin appreciating the importance of project governance. Therefore, the link between project management and corporate governance will be better understood and promoted through project governance.

## **Trend #20: Business Analysis Substantial Growth**

Given the significance important of the Business Analysis idea, business analysis will experiment a substantial growth.

## **Trend #21: GAPPS Standards**

We foresee that the following standards are the most valuable standards of the Global Alliance for Project Performance Standards (GAPPS) for the next triennium:

- A Framework for Performance Based Competency Standards for Global Level 1 and 2 Project Managers (GAPPS, 2009); and
- A Framework for Performance Based Competency Standards for Program Managers (GAPPS, 2011).

## **Trend #22: APMG International Standard**

We envision Managing Successful Projects with PRINCE2 2009 (OGC, 2009) as the most useful standard of the APMG International.

## **Trend #23: PMI Standard**

We visualize the PMBOK® Guide, Fifth Edition (PMI, 2013) as the most useful standard of PMI's community.

## **Trend #24: IPMA Standard**

The ICB (IPMA, 2009) is the most useful standard of the IPMA practitioners. While version 3.1 is the current version of the ICB, we understand that IPMA is currently developing version 4.0.

## Further Research

Walking through the pathways of this paper, several ideas have emerged on the work associated with this study, which are the ground for further research on global project management trends.

In view that we are not aware of a research in the areas of:

- Project management office (PMO) models' trends;
- Trends of agile project management frameworks;
- Trends on the integration of agile methods with traditional project management;
- Trends on the integration of business analysis with agile methods, & traditional project management;
- Trends on the integration of the PMO concept with project governance mechanisms;
- Trends of doctoral degrees in project management in North America; Latin America; Europe; Africa; China; Japan; Middle East; Russian Federation; & Asia Pacific;
- New project management professional certifications trends; and
- Trends on the integration of financial accounting with project management methods.

It is recommended to include the aforementioned topics in a new study of project management trends for the benefit of the project management practitioners, project management scholars, & board of directors, & senior management.

Additionally, it will also be recommended to add to the list of the above-mentioned topics, a specific area of project management information systems in where the new trends of cloud, and non-cloud project portfolio management systems would be studied.

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