

**Effectiveness of Project Management Office (PMO) in UAE
Context: Exploring the Link between Meeting the Critical
Success Factors (CSFs) of Central Enterprise PMO and its
Added Values.**

فعالية مكاتب إدارة المشاريع (PMO) في دولة الإمارات العربية المتحدة: إستكشاف
الصلة بين تحقيق عوامل النجاح الحرجة (CSFs) الخاصة بمكاتب إدارة المشاريع
المركزية للمؤسسات وقيمتها المضافة.

By

Emad Elsayed Abdel Halim Abdel Fatah

Student ID Number 100099

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Faculty of Business

**Dissertation Supervisor
Professor Paul Gardiner**

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Declaration

Dissertation Release Letter

Student Name	Student ID	Program	Date
Emad Elsayed Abdel Halim	100099	M.Sc. in Project Management	April,2013

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رَبَّنَا عَلَيْكَ تَوَكَّلْنَا وَإِلَيْكَ أَنَبْنَا وَإِلَيْكَ الْمَصِيرُ " صدق الله العظيم " القرآن الكريم صفحة 549 "

In the name of Allah, the most gracious, the most beneficent.

"Our Lord! In You (Alone) we put our trust, and to You (Alone) we turn in repentance, and to You (Alone) is (our) final Return." "Holly Quran, p. 549"

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Abstract

One of the most significant current discussions in the project management field is having an effective PMO that can play significant roles to enable organizations to achieve their goals and objectives through enhancing the effectiveness of the project management, hence Meeting the CSFs of the central EPMOs is a crucial factor to ensure that central EPMOs add the expected values to their organizations.

This study deals with an existing problem at many contracting organizations in UAE that is the noticeable fluctuation of the added values by their project management offices in the different Emirates in UAE since project managers at those project management offices are willing only to achieve success of their projects regardless meeting the CSFs of the central EPMOs (if CEPMO is exist) or because there is no CEPMO at all that affect the entire added values to the organizations. Accordingly, the motivation to study this problem is to determine how organizations can increase the values that can be added by their CEPMOs through meeting the CSFs of those CEPMOs.

The main aim of this research is to critically examine and assess the relationship between achieving the CSFs of the CEPMO and the added values by it to the organizations, furthermore this study analyze the relationships between different factors of the CSFs of CEPMO and the values that can be added by CEPMOs through the study hypotheses.

The study undertakes an in-depth literature review on the different definitions, roles and functions, opportunities and threats, maturity models, and it focuses on the CSFs of the PMOs that support the aim of the study. Moreover, the study defines the proper way to assess the performance of the PMOs and the metrics that should be used for such assessment. Subsequently, a survey questionnaire is carried out to collect the empirical data that is used to examine the research hypotheses through quantitative research approach using SPSS software to determine the relationship between meeting the CSFs of the central EPMOs and its added values

The findings confirm that there is a strong direct relationship between meeting the CSFs of CEPMOs and the added values by CEPMOs that enhance the overall organizational performance.

Accordingly, this study recommends the contracting organizations (medium or large size) in UAE to have central EPMOs that can manage and control the project management offices in the different Emirates to meet the CSFs of the CEPMOs to ensure adding the appropriate values level to the organizations.

Keywords: Central Enterprise Project Management Office (CEPMO); Critical Success Factors (CSFs); Added Values; Contracting Organization in UAE.

ملخص البحث

واحدة من المناقشات الحالية الأكثر أهمية في مجال إدارة المشروع هو وجود مكتب إدارة مشروعات فعال والذي يمكن أن يلعب دورا كبيرا في تمكين المؤسسات من تحقيق أهدافها ومقاصدها من خلال تعزيز فعالية إدارة المشروع، ولذلك فإن تحقيق عوامل النجاح الحرجة الخاصة بمكاتب المشاريع المركزية للمؤسسات هو عاملا حاسما لضمان إضافة القيم المتوقعة لمنظمتهم.

تتناول هذه الدراسة مشكلة قائمة في العديد من شركات المقاولات في الإمارات العربية المتحدة و هي التذبذب الملحوظ في القيم المضافة من مكاتبهم لإدارة المشاريع في الإمارات المختلفة في دولة الإمارات حيث أن مديري المشاريع في تلك المكاتب لإدارة المشاريع يهتمون فقط بتحقيق نجاح مشاريعهم ويهملون تحقيق عوامل النجاح الحرجة الخاصة بمكاتب المشاريع المركزية اذا كان مثل هذه المكاتب للمشاريع المركزية موجودة أو لأنه لا يوجد على الإطلاق مكاتب مشاريع مركزية و التي تؤثر على القيم المضافة إلى الشركات. وفقا لذلك فإن الدافع لدراسة هذه المشكلة هو تحديد كيف يمكن لهذه الشركات أن تزيد من القيم المضافة من قبل مكاتب إدارة المشاريع المركزية من خلال تحقيق عوامل النجاح الحرجة الخاصة بمكاتب المشاريع المركزية للمؤسسات .

والهدف الرئيسي من هذا البحث هو الدراسة النقدية وتقييم العلاقة بين تحقيق عوامل النجاح الحرجة لمكاتب إدارة المشاريع المركزية والقيم المضافة منها للمنظمات، وعلاوة على ذلك تقوم هذه الدراسة على تحليل العلاقات بين عوامل النجاح الحرجة لمكاتب المشروعات المركزية وقيمتها المضافة وذلك من خلال فرضيات الدراسة.

تقوم الدراسة بإجراء استعراض متعمق للتعريفات المختلفة، والأدوار والوظائف والفرص و المخاطر، ونماذج النضج لمكاتب إدارة المشاريع و تركز على عوامل النجاح الحرجة لمكاتب إدارة المشاريع و التي تدعم الهدف من هذه الدراسة. وعلاوة على ذلك، فإن هذه الدراسة تحدد الطريقة المناسبة لتقييم أداء مكاتب إدارة المشاريع و الأسس التي يجب أن تستخدم لتقييم مثل هذه الاداء. وبعد ذلك، يتم اجراء استبيان للدراسة الاستقصائية لجمع البيانات التجريبية التي تستخدم لفحص فرضيات البحث من خلال البحث الكمي باستخدام برنامج SPSS لتحديد العلاقة بين تحقيق عوامل النجاح الحرجة لمكاتب إدارة المشروعات المركزية للمؤسسات وقيمتها المضافة

نتائج هذه الدراسة تؤكد أن هناك علاقة مباشرة قوية بين تحقيق عوامل النجاح الحرجة لمكاتب المشاريع المركزية وقيمتها المضافة و التي تعزز الأداء المؤسسي العام.

وفقا لذلك، فإن هذه الدراسة توصي شركات المقاولات (متوسطة أو كبيرة الحجم) في الإمارات العربية المتحدة أن يكون لديها مكاتب مشروعات مركزية والتي يمكنها الإدارة والسيطرة على مكاتب إدارة المشاريع في الامارات المختلفة في دولة الإمارات لتحقيق مختلف عوامل النجاح الحرجة الخاصة بمكاتب المشاريع المركزية لضمان إضافة مستوى القيم المناسبة للمنظمات.

كلمات البحث الرئيسية: مكتب إدارة المشاريع المركزية للمؤسسات ؛ عوامل النجاح الحرجة ؛ والقيم المضافة؛ شركات المقاولات في الإمارات العربية المتحدة.

Abbreviations

CSFs	Critical Success Factors
PMO	Project Management Office
EPMO	Enterprise Project Management Office
CEPMO	Central Enterprise Project Management Office
PMCoE	Center of Excellence in Project Management
PO	Project Office
CF	Conceptual Framework
PSO	Project Support Office
R ²	Coefficient of Determination
RACI	Who are Responsible, Accountable, Consulted, and Informed
UAE	United Arab Emirates
PMBok	Project Management Body of Knowledge
BUiD	The British University in Dubai
ASU	Academic Success Unit
PMI	Project Management Institute
CEO	Chief Executive Officer

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Chapter 1 Introduction

1.1 Research Overview.

“During the last 30 years there has been a surge in growth in corporate and business strategy subjects taught in business school worldwide, with the aim of helping organizations create sustainable competitive advantage against their current and foreseeable competitors.”

(Gardiner 2005, p.54)

Accordingly, project management has tried to deal with such challenges by creating unique tool to enable organizations achieving their goals and objectives within that fast growth business environment and huge competitions among different competitors in the same field. Concurrently, PMI (2004) informs that project management is not only applying of definite procedures and process, but it is also a type of art that can merge the proficiency and experience of project managers with the project management methodologies to deliver the projects' outcomes, products, on time, within the budget, and according to projects specifications.

Moreover, it is worth to define project management office (PMO) since there are varieties of definitions of the term PMO have been suggested, this research will use the definition that was proposed by Curlee (2008) who defines the PMO as a focal point at which project managers and their project management team can forward their progress reports and obtain instructions and steering, while senior management can direct the projects managers to achieve the organizational strategy goals. Meanwhile, critical success factors (CSFs) will be defined as Rockart (1979) defined them as the main topics that should be achieved to ensure growing up of business.

Therefore, Rad and Levin (2002) confirm that creating PMO has been developed by project management experts as a project management tool that can provide the base to evolve the organizational process and procedures to ensure and sustain the success of organizational projects and to maximize the merits of standardize the project management methodologies since organizations have many failures of their projects according to improper communication, insufficient commitment of executive management, unavailability of standard project management processes, consistence in project

management, and competencies of the project managers and project team members that lead to overrun in cost, time and poor quality of the project deliverable.

Subsequently, Curlee (2008) confirms that one of the most significant discussions in the field of project management is the establishment of an effective PMO and achieving its CSFs since establishment of an effective PMO is considered one of the several challenges confront the society of project management to ensure that PMO adds noticeable values to its organizations. Indeed, many organizations invest many of money to establish PMOs to effectively and efficiently manage their project, but they have failed to achieve this objective according to their failure to achieving the CSFs of PMOs which reflected on the added values of the PMOs itself.

Accordingly, the significance, importance, of this essay is that it critically examines and focuses on identifying the CSFs of PMOs, its key sources, and exploring the relation between achieving the CSFs of the central EPMOs and its added value through an empirical data that is collected via questionnaire that is forwarded to select competent and well educated/trained project managers at different organizations within UAE to enable organizations to evaluate and assess their PMOs' values, performance and success. Therefore, the questionnaire is used to explore the different participants' opinions to recognize the nature of the relationship between achieving the CSFs of CEPMO and its added values to the organizations which have no CEPMOs through enhancing the performance of those organizations. Concurrently, the aim of the survey is not to evaluate any existing PMOs in construction organization, but to explore and assess the relation between achieving the CSFs of CEPMO and it added values..

Meanwhile, Singh (2007) emphasizes that little research paper deal with the CSFs of PMOs and how to identify and achieve them, so this paper aims to cover the shortage of research on identifying the CSFs of PMOs and exploring the relation between achieving the CSFs of EPMOs and its added value since most of research that deal with the PMOs discussed only how to structure the PMOs without exploring this important relationship that can guide the organization to enhance the performance of the existing PMO or set

appropriate guide to new EPMOs through identifying the CSFs of their EPMOs that should be achieved.

So far, there has been little discussion about the CSFs of PMOs and its effects on the organizational performance such as have been done by Desouza and Evaristo (2006) and Andersen et al. (2007) to identify the CSFs of the PMOs, unfortunately they have not explored (through detailed studies) the relation between achieving those CSFs and the value added by the PMOs.

The justification to carry out this research based on this topic is the importance of the topic itself since it is so significant for any organization to maximize its profit and revenue through establishment effective central EPMOs that can deal professionally with its CSFs and can solve and settle most of project management challenges.

In the contrary, there is some research that has highlighted that establishment of PMOs will increase the risk (threat) that may affect the entire organization performance and success as confirmed by Kerzner (2003) who says that the value of the PMOs should not be considered if the risks are hardly to be dealt and that is why this essay will assess the maturity, success and performance of the PMOs to enable the organizations identify the benefits of establishment of the central EPMOs even prior to commence the establishment steps of the EPMOs.

Indeed, it is worth to highlight that this research paper is limited to the UAE business and management environment since the empirical data that is used to explore the relation between CSFs of the central EPMOs and its added values will be collected within UAE, so the results may be not relevant for other countries that may need more specified study and research effort. Moreover, limitations of the empirical data are stated in details in section 6.3, while the main limitation is that the respondents may let another people to answer the questions or they may answered the questionnaire superficially that may affect the results of the study.

1.2 Statement of Problem

Kothari (2004, p. 24) confirms that researcher should define the problem and develop it to be ready for research process through investigate all the possibilities that revealed by him prior to explore the solution to overcome this problem.

This research will address an existing problem at many of contracting organizations (medium and large size) that have branches in the different Emirates of U.A.E. which is the inadequate added values of the different projects management offices according to the noticeable variation of the projects' performance and success in the various Emirates in UAE since the project managers at those branches are not willing to achieve the CSFs of central enterprise projects management office (if EPMO is exist at the organization) or because there is no central EPMO at all, while those project managers concentrate to meet their project outcomes. So, Crawford and Bryce (2003) confirm that achieving the project objectives is a must, but not enough to add the anticipated values to the organization since the objectives of a project is one factor that cannot enhance the overall organizational performance.

This problem may be according to two main reasons, the first is project managers do not meet the CSFs of the existing central EPMO, while the second reason is those organizations do not have central EPMOs at all that can monitor and control all the projects' activities to ensure that they add adequate values to their organizations. Therefore, every project manager at those organizations relies on his own experience and practices to manage his projects without any consensus on the most appropriate project management tools, techniques, and methodologies. Since, Curlee (2008) confirms that centralized EPMO is the entity that furnishes the project managers with the most appropriate project management methodologies. Moreover, central EPMOs command and guide project managers at different locations for the appropriate practices while receiving their progress reports to monitor the projects' performance and success regardless the location of the projects.

Accordingly, central EPMOs can standardize the process, procedures, and methodologies of project management in all organizations' branches in the different Emirates to efficiently manage and control their projects through achieving the CSFs of the central EPMOs and add the appropriate level of values to the organizations.

1.3 Significance of the study

One of the several challenges in the field of the project management is how the PMO meets its critical success factors to ensure adding values to the organization. Therefore, this research will try to explore the relationship between meeting the CSFs of central EPMOs and the added value which can support the organization to decide whether to establish an effective central EPMO or not, so this paper presents the significant key CSFs of PMOs that should be understood well before making the decision to establish the EPMO, since Kerzner (2003) argues that organization should understand and assess both of benefits and risks, threats, of central EPMO prior to establish it to avoid any waste of money and to ensure the appropriateness of the investment decision to establish the central EPMO.

Furthermore, this paper will determine how to assess the maturity level of the PMO and how it can be evolved; since pm solution (project management solution 2010) ensure that there is a direct relation between the maturity level of the PMO and its added value to the organization. Eventually, this research describes how to evaluate and measure the performance and success of PMO that should be the important step to evolve any existing PMO to realize the contribution of the EPMOs to enhance the organizational performance.

1.4 Research Aim

The aim of this research paper is to identify the critical success factors (CSFs) of PMOs that affect the organizational performance and success and investigate the relation between the achieving the CSFs of central EPMOs and its added value to the organizations within UAE to enable organizations to continuously grow and expand.

1.5 Research Objectives

Saunders et al. (2007, p. 610) define research objectives as obvious and particular phrases and expressions that define the aims that research would like to achieve as outcomes of the research. Accordingly, the objectives of this research can be concluded as the followings:

- Critical analysis and evaluation of literature review (chapter two) in term of definition, characteristics, roles and responsibilities, models, benefits, and risks (threats) of the central EPMOs.
- Critically identify and analyze of the CSFs of central EPMO and methods to measure the success and performance of the PMOs.
- Reveal and evaluate the nature of the relation between achieving the CSFs of the central EPMO and its added value.
- Analyze the collected data to find solutions for organizations in UAE to gain more values through achieving the CSFs of their central EPMOs.

1.6 Structure of the Dissertation

This thesis paper comprises of seven chapters according to the following brief structure:

❖ Chapter one: Introduction

This chapter introduces the reader to the research overview, statement of problem, significance of the study, research aim, research objectives, and brief structure of the dissertation.

❖ Chapter Two: Literature Review

It presents the reader the theoretical concepts and theories that have been used in this thesis that related to the research topic. Hence, this chapter introduces the interesting topics and area of concern such as evolution and definition of PMO, common characteristics of PMO, theoretical background of PMO, importance and benefits of PMO, dynamic nature of PMO, and risks of having central EPMOs. Moreover, it explores models of

PMO, critical success factors for PMO, link between CSFs of EPMO and its added value, metrics to assess PMO, and contribution of PMOs to enhance the organizational performance.

❖ **Chapter Three: Conceptual Framework**

This chapter includes conceptual framework, and research hypotheses that will be examined in the coming chapters.

❖ **Chapter Four: Research Design and Methodology**

This chapter explains the method and approaches that have been used to investigate the research topic (relationships) and the way to measure those relationships through conducting a survey questionnaire. Moreover, this chapter includes the limitation of the study that should be taken into consideration.

❖ **Chapter Five: Chapter four: Results and Finding**

This chapter presents the main results and findings that have been obtained throughout this research.

❖ **Chapter Six: Discussion**

In this chapter the results and finding of the questionnaire of this study, chapter five, are compared with the hypotheses to know whether they support and confirm each other or not, meanwhile results and findings are compared with the previous research's outcomes to realize the implications on the project management discipline.

❖ **Chapter Seven: Conclusion and Recommendation**

This chapter has two aims; the first is to summarize the key findings and the main areas of concern of the current study, while the second aim is to give the most appropriate recommendations to the contracting

organizations in UAE to gain the utmost values through establishment of effective central EPMOs to enhance the entire organizational performance.

Chapter 2 Literature Review

2.1 Introduction

This chapter presents the reader the theoretical concepts and theories that have been used in this thesis that related to the research topic. It commences with section 2.1 that is this introduction, while section 2.1.1 shows the evolution of the PMOs over different time intervals. Section 2.2 provides different definitions of the PMO, while section 2.3 defines the different characteristics of the PMO from different point of views that help the reader to understand of the nature of PMO.

Same while, section 2.4 provides the historical background of the PMOs during different period of times, while Section 2.5 highlights the importance of the PMO and why it is an effective project management tool to effectively manage the organizational projects through showing the several benefits of the PMOs. Section 2.6 is one of the key parties of the literature review that shows significant areas of PMOs such as roles and functions of PMO within the main three levels which are strategic, tactical, and operation level; moreover this section discusses maturity of the PMOs and its life cycle and how to build sustainable PMO model.

Concurrently, section 2.7 draws the attention of the reader that establishment of PMOs is not always the right decision since PMOs have risks (threats) as well that should be considered by the organization. Section 2.8 describe PMO model that can be used to establish an effective PMO through discussion the five variables of the PMO model. Section 2.9 presents the different definitions of CSFs and the source of those CSFs, and it describes in detail the CSFs of the PMOs to enable the organization to realize these CSFs. Section 2.10 shows (by discussing the previous research that dealt with such topic) the relation between meeting the CSFs of the EPMOs and the value that can be added to the organization by EPMOs. Meanwhile, section 2.11 differentiates between the success and the performance and provides a guide for how to measure both of them.

Eventually, section 2.12 provides the contributions of PMOs to improve the organizational performance.

2.1.1 Evolution of PMO

Crawford (2011, p. XXVII) confirms that the concept of the PMOs is not new since it was recognized by the ancient nations to carrying out major activities such as building of temples and pyramids via organizing the staff working time within specified period to achieve specified objectives, while he argues that project and its methodologies were developed as a result of the Second World War. Therefore, the preliminary concern in projects was the planning and controlling according to this military perception. Indeed, USA Army was the first initiator to establish System Program Office with authorized director to plan, undertake, monitor, control, and accomplish any project. So, System Program Office is actually considered the originator of the nowadays' project management office PMO.

Furthermore, he asserts that the initial usage of the project management in different engineering projects and research and development forced the philosophy of the project duration, project goals, and project team on the present organizational structure and that was the birth of the term “matrix organization”.

Concurrently, Kendall and Rollins (2003, p.192) confirm that within the last ten years project management is developed and grown and many of organizations are nowadays interested to have the most appropriate project management tools and techniques to effectively manage their projects and achieving their strategic goals and objective since project management is the organizational roadmap to improve their competencies and profitability. While, Unger et al. (2012) assert that within the previous five years, organizations have much interest in managing several projects aspect at a time instead of one project management to maximize the organizational benefits.

Furthermore, project management creates a huge amount of information that should be measured, analyzed, ordered, and recorded to achieve the maximum benefits from such data in ongoing and upcoming projects, so these needs to give birth to the PMO. Meanwhile, Aubry et al. (2007) assert that organizational project management can be implemented through establish an effective PMO.

Moreover, Crawford (2011, p. XXVII) affirm that PMOs are evolved in three key levels. The first level is called project office and it deals with the big and sophisticated individual projects to track multiple baselines such as duration, scope, and cost. The second level is called unit project office and it manages several projects, with different sizes within a department, and its main role is to merge the entire projects' objectives into one/more portfolios' objectives. In this level the use of resources will be more effective and efficient since it can specify the time when these resources will have a shortage to enable the organization providing alternative sources of resources through outsourcing or hiring additional resources.

Eventually, the third level is named strategic project management office and it is responsible to furnish the higher management with the required information to prioritize the projects to boost the objectives of their firm, while PMOs provide the best ways to manage the organizational resources that will improve the process maturity. Meanwhile, Crawford and Brewin (2010, p.99) confirm that one of the PMOs' values in this level is not only to prioritize the projects, but to terminate the unsuccessful projects in order to avoid lose of funds.

Moreover, Kerzner (2003) classifies the evolution of PMOs within three main periods as the followings:

- The project office 1950-1990

Within these forty years, project office performed as a client group project office and it included a dedicated project management staff who were responsible to administer large projects such as military projects. During that period project office was a separate company inside the firm and it could perform as a 'real' or 'virtual' entity to serve a specified customer.

- The project office 1990-2000

Within this period organizations started to reveal the importance of the modern project management techniques to reach the desired efficiency and effectiveness level and they started to recognize PMI as a standard to reveal the significance of the project office. Therefore, all the vital tasks related to the project management were assigned to the PMOs to professionally handle it.

- The project office 2000-present

When 21st century commenced, project office was popular in most of large organizations and it had more roles and responsibilities than before, and it has new responsibilities such as strategic planning instead of serving a definite client since the volume of information increases within most of companies.

In term of impact, Light and Berg (2000) confirm that organizations which have effective PMOs can reduce the over cost and time by fifty percent while project success are increased, therefore O'Brochta and Robertson (2012) argue that the cost of establish and operate of the PMO should be less than its added values.

Therefore, Crawford (2011, p. XXXV) confirms that improvement in completing projects within its estimated budget and time is achieved according to three reasons which are the tendency to undertake small project since they are not sophisticated as a large one, and the second reason is the improvement of the project management, while the third reason is the increment of using the standard project management tools such as establishment of effective PMOs.

2.2 Definition of PMO

Since project management office is newly developed as a tool to effectively manage different projects towards achieving their objectives and goals, there is no consensus on the definitions and even names of the project management office among research papers because there are broad discrepancies in terms of size, structure, objectives, and functions

of the PMOs. So, it may be known as project management office, project office, centre of excellence, enterprise PMO, and directorate / division of project management. Therefore, Baker (2007) confirms that PMO may be known as a home office at which projects can be handled and administered.

While, Singh et al. (2007) confirm that PMOs are defined in one of two approaches: the first is a company structure to administer a definite project or group of linked projects and can be managed by a dedicated project managers. While, the second definition is an organizational party that provides both of project managers and project team member with the required training and project management techniques, policies, procedure, and standards to effectively manage their projects to achieve the expected goals and objectives.

Regardless of the various consensuses, Curlee (2008) defines the PMO as a focal point at which project managers and their project management team can forward their progress reports and obtain instructions and steering, while senior management can direct the projects managers to achieve the organizational strategy goals. Therefore, Aubry et al. (2008) insist that PMO is an important entity of the organization that should not be segregated from the other organizational entities to assure transferring of knowledge and development of innovation. This definition is crucial to understand the relation and nature of communications between the PMO and other parties inside the organization itself to accomplish the objectives and goals of both the project and organization.

Furthermore, Hobbs and Aubry (2008) confirm that there is no standard PMO structure that can be established for all types of organizations and for different objectives and goals since it is also different if the company is private or public, while Englund et al. (2003, P.83) confirm that PMO may have several sizes and structures. This understanding reveals that the construction of PMO should be achieved according to the organizational nature, needs and requirements, so Baker (2007) asserts that PMOs can differ in definition and roles; however it is necessarily focus, matches, and monitor the entire management of projects and/or programs since Ketchen et al. (1993) confirm that there is a relation between the performance of the organization and its configuration.

2.3 Common Characteristics of PMO

Hobbs and Aubry (2008) contend that determination the characteristics of PMO are significant information to establish a strong base to develop the required PMO, so different characteristics of PMOs can be defined as the followings:

- Location of PMOs in the Organization Structure

Central PMO can be established to manage the entire projects of the organization at one location, or PMOs can be established in different locations of the company such as business, functional or regional units, while Jedd (2005) claims that central PMO can enhance the skills of the staff to achieve the organizational objectives. So, the disadvantages of the non- centralized PMOs (such as within business unit) is that PMOs have less maturity level in project management that is important to achieve success, while it can analyze business information more than the central PMOs.

- Size of PMO Staff

PMO leaders are encountering a problem to rationalize the required staff to take over the jobs that are anticipated by PMO, since Fleming and Koppelman (2001) believe that project managers are not able to carry out all the required works and that is why a sufficient manpower is required to accomplish the works since the size of PMO staff has a relation with the number of projects and its volume. This point is very important from financial point of view because PMOs have to justify the needs of large staff to ensure that there is no waste of money that may be incurred, while expanded staff may be required to undertake the different tasks of PMOs in professional manners.

- Level of Authority of the PMO

PMOs having adequate decision making authority, called empowered PMOs can manage the projects effectively if they have the qualified PMOs managers, in the contrast if the PMOs have not enough power it is called passive PMOs that may be

a main reason of PMOs failure. Moreover, there is a relation between PMOs staff size and the ability to take the proper decision at the right time that leads to success of PMOs. So, small PMOs staff will have negligible authority, while PMOs with bigger staff will have enough power to make the decisions.

- **Number of Project Managers in the PMO**

There are three choices for the organization to allocate the project managers, the first is to include all the project managers at the PMO, or PMOs without any project managers, and the final choice is to allocate some of them in the PMO and the remaining outside PMO. Since, project managers are responsible for their projects' outcomes, so the decision to allocate projects managers in the PMO or outside is a significant decision to identify the accountability of project managers within the PMO.

- **Number of Projects under PMO's Responsibility**

Most of companies assign the responsibility of managing all of their projects to its PMOs, but some companies prefer to assign limited numbers of their projects to their PMOs, and in this case the organizations have to have specified criteria to select which projects should be managed by the PMO. It is worth to mention that this characteristic has a significant relationship with the others two characteristic which are the level of authority of the PMO and number of project managers in the PMO.

The main strength of Hobbs and Aubry (2008) study is the obtaining of many links between organizational characteristics and PMO characteristics that will affect the kind of PMO that the organization might establish or develop to gain the desired values. However, Hobbs and Aubry (2007) claim that there is no consensus on the values of the PMOs according to two key reasons, the first is the PMO itself is a new a management tool, while the second is the variances of the PMOs' functions and roles. Moreover, Desouza and Evaristo (2006) point out that PMOs should have agile combination of technical and

business expertise to ensure the conserving of cognition of the two disciplines and this characteristic is not taken into account by Hobbs and Aubry (2008).

2.4 Theoretical Background for PMOs

The concept of achieving a specific goal through organizing the effort and technical skills of a group of people within a specified period of time is not new since the ancient Egyptians realized it and they used this concept since long time back during building of pyramids, during different generation, by specified engineering and technical processes, nevertheless Kent (2007) asserts that the concept of project is appeared within the twentieth century.

In addition, Baker (2007) confirms that the construction of the PMOs was observed since around 60 years ago when US army building up of new complicated weapon scheme in 1950s, however the formal name PMO was created since last 14 years. Indeed, Valle et al. (2008) point out that the term PMO began to publish in journal articles and reference books in 2003 which was the year of birth for the PMOs, despite there was some discussion about PMO during some conferences prior to 2003.

Furthermore, Valle et al. (2008) contend more details about the historical background of PMOs and state that within the past 15 years PMO has another different terms like Center of excellence, Project office—PO, and project support office—PSO. In 1995, a Center of Excellence in Project Management PMCoE was developed and it is a synonym of PMO since PMO can be considered center of excellence, while in 1997 Project Support Office PSO was established. Moreover, in 1999 PMI propose an entity called steering committee that has a function to support the senior management to standardize and control of the project management policy and procedures since steering committee has the same function of the PMO. While, in 2001 during a PMI conference in Brazil, there was a presentation called Virtual project management office VPMO and that presentation describes the roles and function of the VPMO to monitor and control the tasks of the projects.

2.5 Importance and Benefits of the PMOs

The PMO is not only a group of people who work together to accomplish different tasks of different projects, but its importance can be easily revealed by its effects on both the project and organizational performance, so Nancy et al. (2007) find a direct relation between existing of the PMOs and the project performance. Furthermore, these effects, influences, will determine if the PMO will success or fail.

Accordingly, Kerzner (2003) affirms that PMO has a great importance according to its benefits that can be achieved by the organization, and he evaluates the evolution of these benefits of the PMOs to its organization over different periods of time as the followings:

- **Benefits of Project Management Office: 1990-2000**
 - Undertaking extra works within lower time and resources.
 - Growth the organizational revenues.
 - Monitoring the project scope of work and avoiding undesirable change.
 - Achieving customers' satisfaction.
 - Reduction of risk probability and clear obstacles.
 - Increase the ability of handling more projects regardless of their size.
 - Enhance the project/product's quality.
 - Minimizing the battle on the managers' posts.
 - Development of knowledge and information transfer.
 - Enhance the company's profit by effectively use the available resources.
- **Benefits of Project Management Office: 2000-Present**
 - Participate in strategic planning.
 - Formalization of management process.
 - Enabling staff, through committees, to participate in decision making process.
 - Improve the assignment of the available resources.
 - Enhance reaching of the reliable information.

- Achieving and sustaining of the appropriate organizational structure.
- Avoid wasting of time of higher management to attend unnecessary meetings.
- Deal with different works in order of importance.
- Providing the necessary training and management skills for the candidate managers that leads to increase the productivity of all the PMO's staff according to Loo (1996) confirmation

Although Kerzner (2003) confirms most of the significant benefits of the PMOs, but the author fails to fully acknowledge the significance of PMOs to drive changes at any organization to achieve its strategic goals and projects objectives. This great benefit, leading change, is an important benefit since it is not only considered CSFs of PMOs to ensure the success of the PMOs, but it is the main problem to establish the PMO itself as Singh et al. (2009) confirm in their research.

Same while, Rad (2001) confirms that the benefits of the PMO have a great effect on the organizational performance to achieve its goals and on the projects to maintain it within the approved triple constraints which are budget, time, and scope to ensure the success of the project. Moreover, he asserts that company will be able to enhance its project management effectiveness by having PMO.

2.6 Dynamic Nature of PMOs.

PMOs have a dynamic nature according to its roles and functions that are changed with time according to new tasks and/or changes of business environment that requires evolution from a definite structure to other Aubry et al. (2007 and 2010) and Hobbs (2011). According to Aubry et al. (2009) PMO should not be segregated from its organizational and business environment changes and it should adapt its structure according to these changes to perform properly. Moreover, Hobbs et al. (2008) confirm that firms always change the structure of PMOs every little number of years since Aubry et al. (2009) assert that the structure of the PMOs should be changed every two to four years.

Likewise, Hurt and Thomas (2009) assert that the structure of PMOs requires constantly changes since the PMOs have a group of troubles that PMOs have to settle them, such as control of budget, quality, and schedule. Hence, effective PMOs should define new targets, such as assuring the commitment of the process, procedures, and methodologies that requires new PMOs structure and procedures to achieve these new goals and objectives.

2.6.1 Roles and Functions and actors of PMOs

There are many roles and functions of the PMOs can be implemented at any organization, however the implementation of such roles and function depends on the business environment, culture, and strategic objectives of the organization itself in addition to the purpose of the establishment of the PMO.

Dai and Wells (2004) affirm that PMOs have key roles and functions as mentioned beneath:

- Creating and Preserving Project Management Standards and Procedures.

PMOs can create, evolve, and sustain the appropriate project management standards and procedures that can guide the project managers and their team management at the company. Those standards and methods should have sufficient elaboration, without unnecessary details to encourage innovation since encouraging innovation is also PMOs' function. Those standards, templates, and procedures should include guidance for the different stages of the projects such as projects Initiation, approval of changes, risk management, and project closure.

- Creating and Preserving Project Historical Data.

Dai and Wells (2004) confirm that PMOs could furnish the historical data of the previous projects to project team to ensure sharing knowledge and gain benefits from previous lesson learned to effectively manage the ongoing projects. This historical data may include, but not limited, lesson learned, project performance, risk assessment, change management records and logs, prosperous and non prosperous projects.

- **Providing Project Administrative Assistance**

Project administrative assistance is normally required according to the growth of the project numbers. This function of PMOs may include developing templates for project reports and purvey the required war room for interviews and meetings to develop and plan business strategy.

- **Providing Human Resource/Staffing Support.**

Competent and skilled employees, especially project managers, are required to ensure the project success, so PMOs can opt the most appropriate project manager from the candidates from inside or outside the company according to the nature of the project. Therefore, PMOs can evaluate the performance of the project staff and provide the required training to them if there is a shortage in their knowledge. Moreover, PMO can set a definite procedure and roles for appreciation of the unique employees according to their outstanding performance.

- **Providing Project Management Consulting and Monitoring**

Project management should be developed as a strategic project management and not only assigned for a specific purpose because the firms turn into complicated in the Project management. Accordingly, PMOs can furnish its support in handling risk, sharing knowledge among different projects, and comparing the actual progress with the project baselines (time, cost, and scope) and suggest proper solutions for any obstacles to ensure the projects' prosperity.

- **Providing/Organizing Project Management Training.**

According to the fast and vast changes in the projects' environment and its competition, project management training is crucially required to enable projects team to capture the recent methodologies and knowing the updated software of the project management that will help them enhancing their competencies. Subsequently, PMOs

can provide or at least arrange the required training courses for the project team in coordination with the human resource section.

Although Dai and Wells (2004) confirm many of important roles that PMOs can contribute to the organization, they fail to imply the significant roles and functions of PMOs in quality, communication and procurement processes that seriously affect the project and the organization success that is asserted by Valle et al. (2008).

Furthermore, Rozenes and Vitner (2009) argue other important roles of the PMOs which are carrying out the cost/benefits analysis to ensure that the project is profitable to the organization, and to specify the projects' deliverable to acquire the expected results of the projects. Moreover, they stipulate that PMOs staff should have the required skills to resolve any obstacles on time and to have the formal and informal communication skills to ensure customers' satisfaction and higher management's gratification within different organizations that are engaged in the projects.

Moreover, Michael (2009) elaborates other functions of the PMOs as the followings:

- PMOs should develop the skills of the project management team on the strategic leadership.
- PMOs should carry out quality and HSE audits according to the latest international standards to ensure the quality of the projects' deliverable.
- PMOs should rank firstly the projects that achieve the strategic goals of the organization.
- PMOs should study and analyze any presentations related to the project management prior to conducting that presentation to ensure the appropriateness of applying such tools and techniques in their organization.
- PMOs should verify that any change of the baselines to be endorsed by the concerned authority before the implementation of such variations.

The most significant research paper that discusses the PMOs roles and function is done by Desouza and Evaristo (2006) which classifies the role of PMO into three different levels:

strategic, tactical, and operational, meanwhile they insist that the knowledge management is one of the core roles at the three levels which are:

I- Strategic Level.

The responsibility of the PMOs at this stage is to verify that the projects that undertaken by the organization comply with the followings three key targets:

- Strategic goals of the organization.

PMOs should ensure that the projects that are carried out by the organization are aligned with the strategic goals and objectives of the organization, moreover PMOs' staff should ensure that Project managers and their projects members have the full awareness of the strategic objectives of the organization and they manage their projects according to the approved projects management processes, in the different stages, and the agreed priorities.

- Strategic growth of the organization.

PMOs should ensure that the running projects will properly support the organizational development within the real business environment to extend the organizational strategy objectives to be more thrive.

- Effective and efficient knowledge management

PMOs should develop and enhance policies, procedures, templates, and tools and techniques of the project management by usage of a definite procedure for ensuring knowledge conveyance among the different project members within different projects.

II- Tactical Level

The function of the PMOs during this level is to assure the followings objectives:

- Close integration among project initiatives.

PMOs should facilitate communication among different project management teams to ensure that all people properly coordinate with each other and use the same language to manage their projects since Laframboise et al. (2003) confirm that communication and clear vision are significant factors that affect the PMOs' success through achieving the goals and targets of the organizations. This role is significant to ensure that each project that is undertaken at the organization will achieve its objectives within the defined baselines since Pemsel and Wiewiora (2013) confirm that establishment of PMO without obvious vision and function (planning) will lead to failure of the PMO, but organization should be careful since many of planning will lead also to decrease the employees' innovation at the organization as state by Dvir et al. (2003).

- Appropriate quality of the product and service delivered by the project.

PMOs can improve the quality of the final service/product of the projects by supervising and controlling the progress of the project throughout definite procedure and policies.

- Knowledge sharing

This is a key role of the PMOs within the tactical level since it enables all projects members within different projects to gain new experience and knowledge from other personnel's mistakes and success.

III- Operational Level

The roles of PMOs at this level are as the followings:

- Performing project assessments

The purpose of this objective is to ensure that the projects are being carried out as the approved baselines (budget, schedule, scope) and to ensure that any variation for additional cost or resources is well studied and approved.

- Integration of lesson learned observed from the different projects

This target can be achieved by confirming that the information is accessible to enable management to make the right decision on particular management issue.

- Expert knowledge on project management

PMOs should perform as the focal point and the backbone of the knowledge transfer, lesson learned, and historical database to share knowledge and experience among different projects.

- Continuous monitoring of customers' satisfaction

This is one of the key functions of the PMOs to provide the manager in charge with the required customers' feedback to ensure their satisfaction through the appropriate communication channels within or outside the organization.

2.6.2 Maturity Model of PMO

The maturity level of the PMOs can be defined on how PMOs are able to add values to their client and organizations and that why it is always related to the success of the projects, hence Zhiying (2003) defines the maturity as a gauge to evaluate the organizational performance and the health of its processes and procedures.

Moreover, Ibbs and Kwak (2000) confirm that organization normally tries to achieve the appropriate project management maturity level to enhance its performance and to properly managing its projects to gain the utmost values. Zwikael (2008) confirm that all the

different maturity models such as OPM3, PMMM, and P3M3 inform the structure to assess the maturity stage of the organizations.

Accordingly, Pinto et al. (2010) develop a PMO maturity model, it is called PMO maturity cube, which depends on two dimensions which are scope and approach of the PMO to determine the maturity level of the PMOs. So, it is crucial to mention that there are three types of scope of the PMOs: the first is project-program PMO that manage the projects-program within an organization; the second is the departmental PMOs that deal with a part of the organization that may be department, director, or unit; and the final is the corporate/enterprise PMOs or EPMOs that responsible to the entire organization.

Same while, there are three approaches that PMOs can pursue to deal with their stakeholders to achieve the defined goals and objectives. These three approaches are defined by Desouza and Evaristo (2006) since they classify the role of PMO into three different levels: strategic, tactical, and operational or PMOs may work based on all the approaches in the same time. So, enterprise PMOs normally runs strategically, tactically, and operationally if it furnish its travail to senior management through assistance the portfolio management (strategic) and furnish standard practice to the organization (tactical), and administrating several significant projects (operational). Therefore, the conference (PMI Research and Education Congress 2010) ensure that a collection of those three approaches within the scope and each approach can furnishes (organizational, departmental, and program-project) as shown in figure 2-1

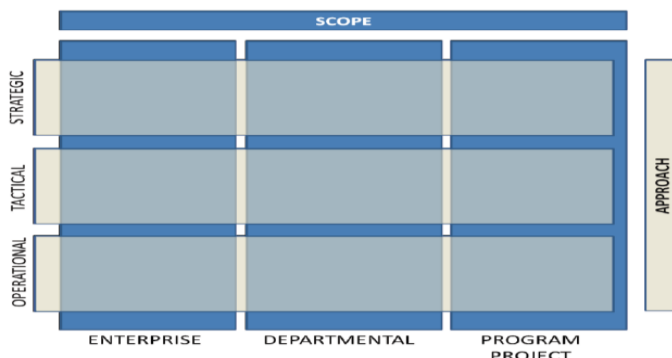


Figure 2-1: The Nine Quadrants Resulting from the Relationship between Scope and Approach (PMI research and education conference, 2010)

Accordingly, PMOs should be assessed based on its roles and functions since organization may have a mature operational or tactical PMO, while it is not a mature strategic PMO and vice versa.

The PMO Maturity Cube

Depending on the above explanation Pinto et al. (2010) develop PMO maturity cube to enable the organizations to assess their PMOs maturity level. As shown in figure 2-2, the three sides of this cube are the different approaches (operational, tactical, and strategic), scope (enterprise, departmental, and program/project), and eventually the maturity level (basic, intermediate, and advanced).

Hence, this model determines the PMOs maturity level through performing three questionnaires that related to the assessments of strategic, tactical, and operational travails. When the questionnaires (sample is in appendix 1) are completed, the entire marks of the current organizational level and the wanted level can be observed and it is divided into the three approaches, and according to those scores the current and desired maturity level can be evaluated.

More explanation regarding how to calculate the current and desired maturity levels are explained in Appendix 1

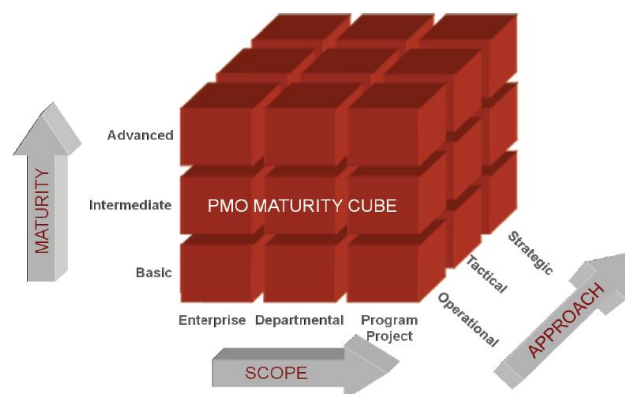


Figure 2-2: PMO Maturity Cube (PMI Research and Education Congress 2010)

Moreover, Hill (2004) sheds light on definite five levels maturity model of PMOs through development of PMOs functions and competency. Every level of the five levels propose a particular PMO's working capability that can be acquired by PMOs, and these five PMOs levels can demonstrate the position of the organization in the project management maturity.

It is worth to highlight that any organization should achieve firstly the lower level of the model to reach the higher level which means that PMOs in higher level can carry out all the roles and responsibilities of the lower levels. Indeed, major percentage of the organizations can be satisfied with the level three and it is not necessary to reach level five to achieve most of organizational needs and objectives.

The five levels of the PMOs can be illustrated as the followings:

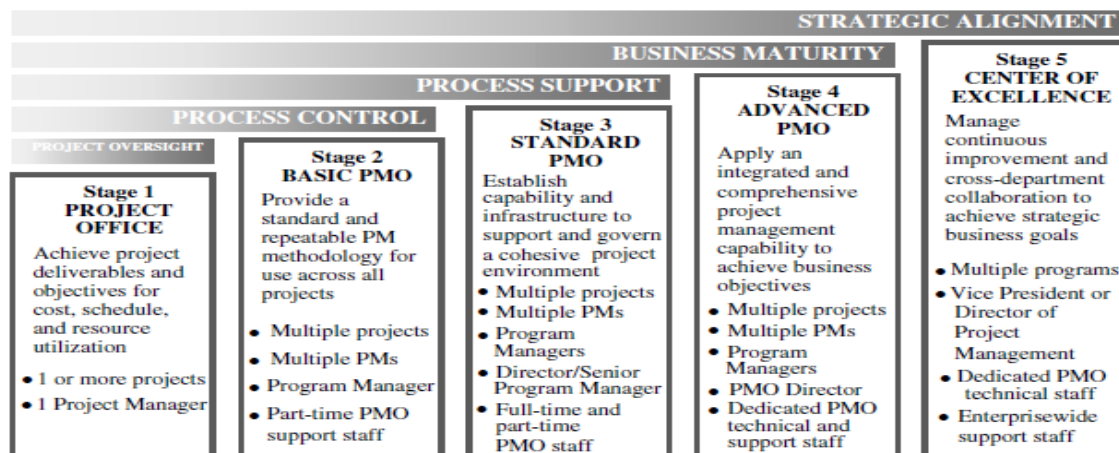


Figure 2-3: PMO Maturity Levels (Hill G.M., 2004)

Level one: The Project Office (Project oversight).

In this level the project office monitors and controls the projects, and it supports the project managers to achieve each project's objectives. However, project office is not responsible for program or strategic objectives.

Whilst, the organization will confront great difficulties to ensure that same project management methodology is followed if the organization has more than a project office at

different geographical areas, so an advanced stage of PMO could be launched to lead the project office tasks.

Level Two: The Basic PMO (Process Control).

It is also named program office and it acts as the first PMO level that controls and monitors many projects to support the project managers to accomplish their goals. At this stage the PMO has the low employee, only one person may be hired full-time, to establish the PMO with little part-time resources, but these requirements may not be the same from one organization to another depending on the business environment and organizational objectives.

Level Three: The Standard PMO (Process Support).

Most of organizations realize that this level as adequate PMO level for their business to achieve their organizational targets and objectives since this level consider the project management is the core business of the organization that can enhance the organizational maturity.

In this level PMOs concentrate on enhancement of performance of both the project team members and projects, and it is also considered the centralized focal point for supervision, monitoring and controlling of the projects activities. This standard PMO needs a full-time chief plus two part-time or full-time employees to simplify the PMO activities. Same while, the staff of the standard PMOs may be extended according to the business need and the workload at the organization in different disciplines.

Level Four: The Advanced PMO (Business maturity).

It is developed from a present PMO and it is not new, accordingly it is named as the big brother of the last level (standard PMO).

The key function of this level is to concentrate on the integration of the business goals into the process of the project management. Subsequently, this level requires additional skilled and managerial staff and resources to evolve, incorporate, and handle the development of processes, roles, approaches and policies to effectively manage the projects and achieve the

organizational strategic goals and objectives that need more authority to be granted to the advanced PMO.

This advanced level undertakes overall supervision, monitoring, and controlling of project activities jointly with the extended functionality to achieve the desired organizational maturity level.

Level Five: The Center of Excellence (Strategic Alignment).

It is an independent business entity that is responsible for monitoring and controlling of the huge projects to achieve organizational strategic objectives and goals and it has a unique impact on the organizational performance to undertake this function, and it has an executive staff that has a communication channel with the senior management.

Therefore, it can be done through two different paths: the first can be established as a normal outcome of the growth of business and the organizational intention to evolve the existing PMOs. The second path is normally occurred at the big organization when it would like to establish center of excellence, separately from any present PMO, to achieve strategic goals and objectives.

Accordingly, all function and roles of the five levels of PMOs are included in appendix 2

The study by Hill (2004) is a powerful study since it describes the different maturity levels of the PMOs within its life cycle with full details regarding both of staff and organization requirements and the benefits that can be achieved by evolving the PMOs throughout this maturity levels.

Likewise, Hurt and Thomas (2009) argue that Hill (2004) report the different roles and functions of PMOs within multiple maturity levels, but Singh et al. (2007) confirm that the main weakness in the study of Hill (2004) is that it does not give any explanation on how to ensure the success implementation of PMOs since Hill (2004) does not identify the challenges that confront PMOs to achieve the objectives of its establishment. Moreover,

Artto et al. (2011) assert that although Hill (2004) provides a clear roadmap to enhance the maturity level of the PMOs, but he fails to show how PMOs can lead the innovation at their organizations.

2.6.3 PMO Life Cycle

Project management office is a dynamic entity that needs to be developed with respect to the time according to the business and organizational requirements.

Therefore, Andersen et al. (2007) assert that PMO has to fulfill the easier activities prior to commence the sophisticated ones according to the phases of PMOs that shown in Figure 2-4.

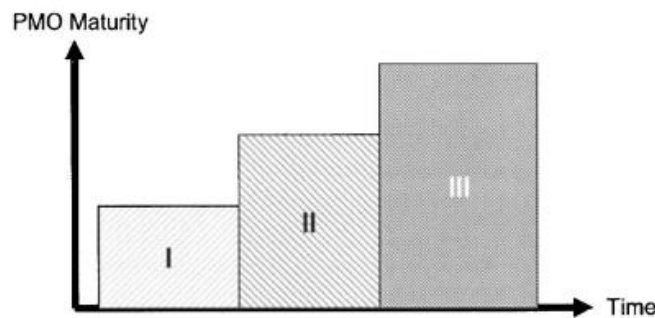


Figure 2-4: Phases of PMO (Andersen et al. (2007))

The evolving of the PMOs can be observed in three main areas which are the obligation of the PMO (roles and responsibilities), size and crew of PMOs, and finally firm's position and PMO level of dominance. Furthermore, the standard PMO life cycle sets up from the initiation to operation and sometimes eventually to closure, while there is a definite model mentioned that the PMOs life cycle comprises of three stages which are the evolving of the project management tools and techniques, implementation of governance and quality audit and control, and eventually the incorporation of portfolio management.

The study of Andersen et al. (2007) fails to define the process or procedure to develop the PMOs during their life cycle and it gives vague projection about it, which is not the appropriate way to develop the PMOs to enable the organization to know the most successful steps and stages to establish their new or enhance existing PMOs.

2.6.4 Establishing a sustainable model of PMOs to ensure adding value.

Having sustainable PMOs model is a key factor to guarantee the success of the PMOs itself along with the time since the PMOs are not a static entity, but it can be changed along with the time.

Hurt and Thomas (2009) confirm that establishment of a sustainable PMOs model can generate and add values to the organization by administrating the investment in projects via the creation of PMOs. Therefore, Hurt and Thomas' determine in 2009 (cited in Collins 2001) confirm the following five topics that should be considered and implemented to ensure that the PMOs have sustainable model and they will add values to their organizations.

I- Build a core Ideology for the long-term

During establishment of the PMOs, organization should have a long-term view and vision of the PMO during the different stages of the organizational life cycle; afterwards organization should identify the value and develop the scope of PMOs that will boost that view. Accordingly, the core ideology of the PMOs should be established according to the following philosophies:

- PMOs staff are efficient and effective staff to manage projects more than any other body at the organization, so project managers should be trained to ensure that they get the appropriate skills to effectively manage their projects.
- Both of flexibility and formal methodology should be congenial notion to ensure that PMOs will have a skilled leader (who focus in his staff) and manager (who focus on activity) to properly deal with the interior and exterior relationships.

Furthermore, organizations should enable their employees and managers to participate in the developing process of the procedures and policies since this participation will increase

the staff's loyalty to their organizations and that policies and procedures because these policies will be the benchmarks to manage the projects at the organization.

Moreover, organizations should concentrate on managing their projects effectively and efficiently, but they should adhere to the key principles that add value to the company that makes them great companies. Same while, organization should maintain the concept of "stimulated progress" which means that organizations should encourage their project managers to manage new types of projects and modernize the policies and procedures and assign new roles to the PMOs to comply with any new organizational objectives and goals.

II- Pick the Right PMO leadership

The successful leadership style should have the followings three features to get sustainable PMO model:

- Leaders should be ambitious, concentrate, assertive, and have the ability to identify the required characteristics of the efficient project management.
- Leaders should be down to Earth, but they should have self assured personality while dealing with the different stakeholders and higher management.
- Leaders should evince the importance and values of their works to the higher management through effective and efficient status reports on regular bases since achieving senior executive's satisfaction will enable PMOs' leaders to convince the project managers to adhere to the standard methodologies since Gale (2011) confirms that many of PMOs were not achieved their goals according to not gain senior management commitment, while Slevin and Pinto (1987) assert that project managers are not granted sufficient power and support by their higher management to effectively manage their project, and the reason for that is highlighted by Read (2008) who assert that senior management is interested in project management only if their organization has business or internally disaster, so Andersen et al. (2007) and Zwikaël (2008) confirm that achieve senior management support for the PMO is one of the PMO critical success factors to meet the organizational objectives and targets to ensure adding value to the organization.

Furthermore, Hurt and Thomas (2009) emphasize that PMOs need unique leader to guide it to be a sustainable PMO to ensure adding values to the organization since few project managers can undertake this task. Accordingly, PMOs leaders should have enough soft skills, transformational leadership style to achieve this target.

III- Carefully staff the PMO

Collins (2001, P.64) asserts that the right staff, is the most important asset of any organization, accordingly Hurt and Thomas (2009) confirm that not all individuals are fit to be project managers, so PMOs leaders should identify the required skills and behaviors that should be inherited in the personality of the candidate project managers to ensure adding values to the organization.

Moreover, PMOs should identify the roles and responsibilities of their staff and one of the best ways to do this job is called RACI chart which stands for who is Responsible, Accountable, Consulted, and Informed as the example shown in figure 2-5. In addition, PMO should set explicit career paths to encourage their staff to develop their skills and increase their professionalism to reach the leadership levels that guarantee the existence of the sustainable PMOs.

RACI Chart	Person			
Tasks	Emad	Paul	Michael	Ibrahim
Site Survey	R	A	I	C
Design	I	R	C	A
Execution	C	I	R	A

Figure 2-5: Sample of RACI charts.

Indeed, PMOs should avoid accidental project managers because the technical portion of the most of projects is the minor and simplest portion since Tarne (2003) defines the accidental project managers as the people who have strong technical background and weak skills of the project management and organizational skills and they cannot depend on their

technical background alone without management skills which are missed of their skills. Furthermore, Darrell et al. (2010) confirm that accidental project managers are people who are posted in project manager position according to an urgent need of project managers while their organization do not have such skilled project managers.

Accordingly, PMO should hire the skilled project managers who are called career project managers who have professional project management and organizational skills and some knowledge about the functions and features of the final project product.

IV- Create a Culture of Discipline

A culture of discipline has two main components which are the disciplined staff and disciplined actions that are linked to roles and responsibilities of every individual as Hurt and Thomas' (2009) confirmation, while Collins (2001, p126-127) asserts that if an organization has many disciplined staff alone, it will not achieve great outcomes because the organization should have three main elements to create the culture of discipline which are disciplined people, disciplined thought, and disciplined action as shown in figure 2-6.

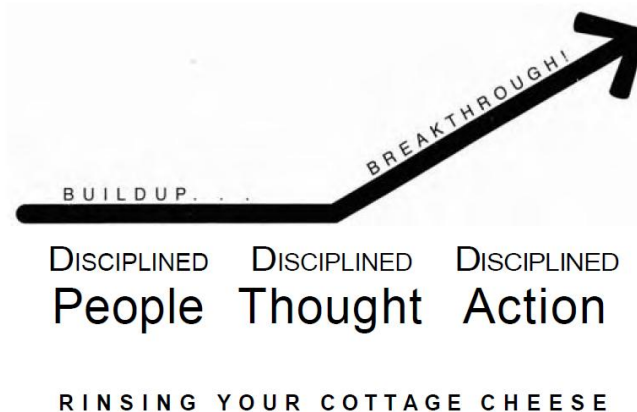


Figure 2-6: The required three elements to create the culture of discipline (Collin, 2001)

Therefore, discipline culture means staff will be willing to carry out their works according to the roles and responsibilities of their job descriptions, and they will be responsible for their actions, meanwhile their managers will be accountable for those actions as well.

Moreover, PMOs leaders should monitor the performance of their project managers according to definite metrics and they should make the discipline action if the performances of the project managers do not comply with the organization goals and objectives.

Furthermore, Collins (2001, P.121) argues that major percentage of companies develop bureaucratic roles to control a little percentage of their staff who are the wrong staff that will badly affect the right staff at that organizations, which will grow more bad staff, then more bureaucratic roles will be required and so on that will badly affect the culture of discipline. Indeed, if both of culture of discipline and ethic of entrepreneurship are shown together, figure 2-7 can be illustrated.

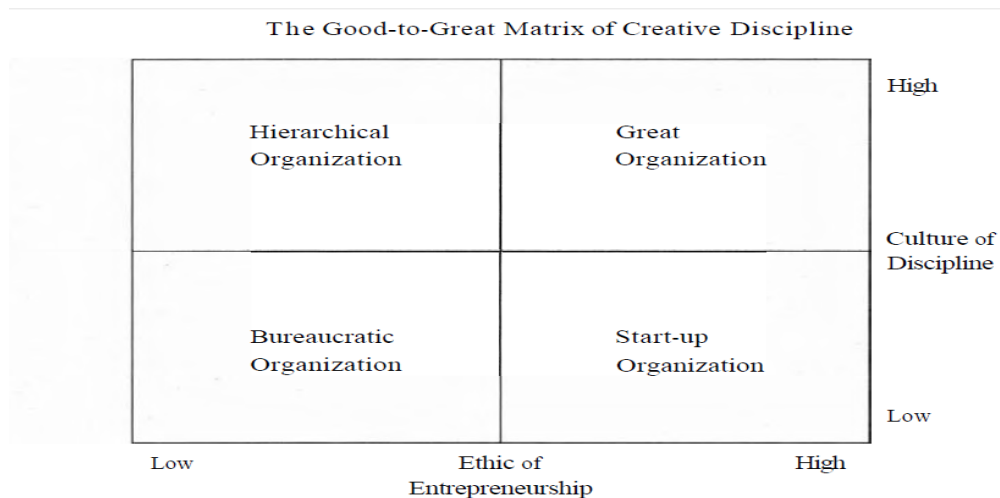


Figure 2-7: The good to great matrix of creative discipline (Collin, 2001)

V- Confront the Brutal Facts (Never lose faith)

Any organization should realize the brutal facts around it and its ability to deal with, ensuring the success, those facts to ensure that it can survive in its environment.

Accordingly, Hurt and Thomas (2009) affirm that PMOs and project managers should realize and confront the brutal facts of their project in effective and efficient ways to avoid any undesired results. So, the role of PMOs is to simplifying the dealing of such facts to ensure that their staff feels secure while dealing with those issues. Moreover, brutal facts

should be assigned to an employee or a group of employees to avoid any idle action by the project staff that may happen if those brutal facts are not responded by a certain individual.

2.7 Risks of having PMOs.

Although establishment of PMOs can provide the organizations with several values and benefits, opportunities, it is not always the right decision since Ward and Daniel (2012) inform that having PMO may decrease senior management support and it has no significant impact on the projects performance that should be taken seriously into consideration. Furthermore, Kerzner (2003) affirms that the value of the PMOs can be ignored if the risks, threats, of preserving the PMO are not professionally handled since the major parts of these risks are not recognized while establishment of the PMOs, but after the operation.

Therefore, Kerzner (2003) confirms those risks contain the followings:

2.7.1 Headcount

Most of organizations start to add more headcount at the PMO when they start believing in the values of establishing the PMOs, and they feel incorrectly that more values will be coming, whereas the normal outcome is decreasing of the returns on investment. Afterwards, more people will be more aware about project management, so the headcount should be minimized.

2.7.2 Burnout

Staff's burnout is usually considered a risk since staff cannot work professionally to their manager if they face stressful working environment.

Therefore, organizations can reduce this through part-time and/or revolving tasks.

2.7.3 Excessive paperwork

Using more paper has cost and environmental impact and it waste time. So, it is recommended using flexible guidance, checklist, and template instead of solid procedures and policies that need more paperwork. Therefore, to perform this professionally, it needs

healthy working environment that depends on mutual confidence, collaboration and appropriate communication.

2.7.4 Organizational Restructuring

PMOs carry out projects through setting the goals and use the experience to achieve these goals (work laterally). Therefore, organization which has working environment depends on mutual confidence, collaboration and appropriate communication can perform very healthy.

2.7.5 Trying to service each person at the organization

Organizations should determine, through definite process, when the PMO should be engaged since not all the projects should be managed through PMO.

The following condition can be used to identify when the PMO should be engaged:

- The project estimated cost.
- The project duration.
- Many people who have different roles and responsibilities are engaged in the projects.
- The anticipated risks to the organization.
- The project's urgency.

Accordingly, Kerzner (2003)'s study is one of the little studies that deals with the risk of having a PMOs, since there are some risks that should be taken into consideration while the organization think to establish a PMO.

2.8 Models of PMOs

It is worth to understand the meaning of the term model prior to deal with the PMOs model itself. Therefore, a recent study by Hobbs and Aubry (2011) confirms that the term model, in the context of PMOs, refers to the information that can boost more discernment to realize the actuality of PMOs which means the structure of the PMOs and their functions

since the model will depict the functions of PMOs and identifies the significant features that should be added in the PMOs.

Hobbs and Aubry (2010, p.20) point out that PMOs model has five types of variables as shown in figure 2-8 and as described below:

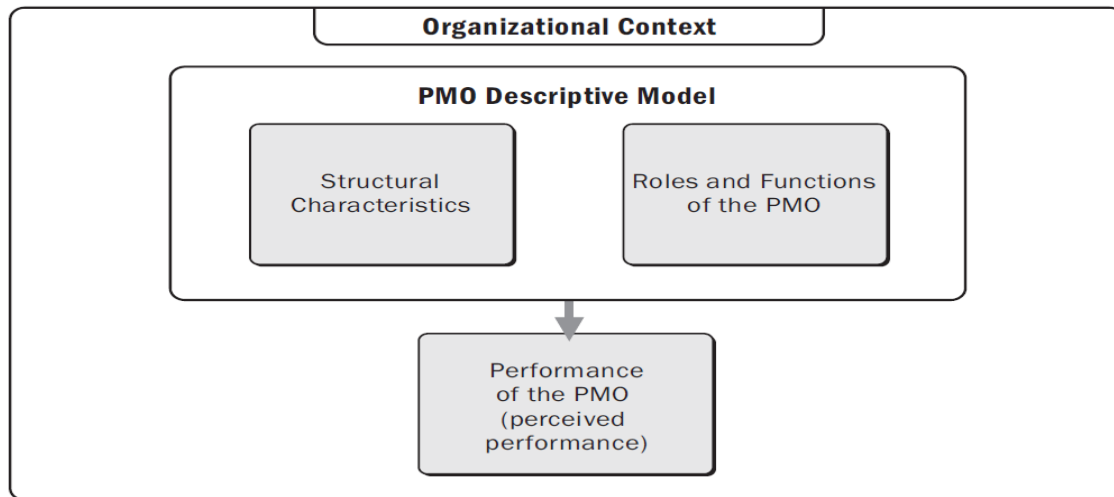


Figure 2-8: Five variables of the PMO model (Hobbs and Aubry, 2010).

- **Structural characteristics of the PMOs.**

A PMO is always considered several dimensional structures and the establishment of a new PMO or evolving of an existing one depends on several sub variables. Hobbs and Aubry 2010 (cited on Rose 2011) confirms that there is relation between PMOs and the organizational characteristics.

- **Roles and function of the PMOs**

PMOs undertake several and different tasks and functions at their organization.

- **Organizational context**

PMOs are not segregated from its environment, but it is grouped with other entities at the organization.

- Types of projects in the PMOs' mandate

There are several types of projects that should be differently managed, monitored and controlled. So, PMOs will be affected, in term of their structures, by the types of projects it will manage.

- The performance of PMO (Perceived value)

The performance of PMOs should be measured against definite metrics and baselines to identify and control the appropriate performance and to make the necessary action if any corrective action may be required.

A serious weakness of this model is the model itself since it can consider a high-level model and it cannot provide any organization with the required procedure to establish their PMOs and how can they keep sustainable PMOs, in the contrary the study by Hill (2004), section 2.6.2 and appendix two gives more details about the PMO model that can be followed by the organization that may want to establish a new or modify an existing one.

2.9 Critical Success Factors

CSFs are the vital areas that should be dealt successfully (achieving or meeting) by the organizations to achieve its goals and objectives. Concurrently, it is worth to inform that Pinto (1988) affirms that CSFs are not constant, but they change with the time, while Kandelousi and Abdollahi (2011) confirm that CSFs should be addressed to enhance the overall performance.

2.9.1 Main Sources of the Critical Success Factors.

Knowing the sources of the CSFs are crucial to enable any organization to deal well with those sources to achieve these critical success factors. Therefore, Rockart (1979) affirms through a unique study that there are four main sources of CSFs:

2.9.1.1 Structure of specific industry

Every industry has its own CSFs according to its features and characteristics, so all organization working in this field should look for those CSFs and keep track of them to ensure success of their business.

2.9.1.2 Competitive strategy, industry position, and geographical location

Every firm has its own situation that can be identified through its past and existing competitive strategy. Since, smaller organization is affected by few great organizations; any change in those great organizations will create an issue for the small firm. Accordingly, the rivals for small firms are usually CSF.

Moreover, variance in industry position and geographical location can specify the CSFs that may not be the same for each organization.

2.9.1.3 Environmental factors

Critical success factors are normally varies according to multi environmental factors such as variation in population density, overall national income/product, and any political circumstances.

2.9.1.4 Temporary factors

Temporary CSFs can happen in case of new situation in any activities that are important to achieve the organizational success for definite span of time, such as any change in the stock can affect the organizational performance and it turns into CSF.

2.9.2 Critical Success Factors for PMOs

To enable a PMO generating value to the organization, it is important to realize and understand well the critical success factors that should be achieved to ensure the success of the PMO. According to Rockart (1979) critical success factors are the main topics that should be achieved to ensure growing up of business, so if they are not attained; it is most likely to fail on achieving the objectives and goals of the PMO, so management should

monitor the achieving of CSFs of PMOs over the time. Moreover, Pellegrinelli and Garagna (2009) confirm that PMOs should add value to their companies to avoid any stress from the business environment and/or from their organization, especially from the project managers who normally disfavor the standard procedures and may reject any intervention by PMOs.

Accordingly, it is worth to identify the critical success factors that affect the performance of the PMOs and its value that should be added to the organization. So, Desouza and Evaristo (2006) explore, through a research study and lesson learned, the critical success factors of the PMOs as the followings:

2.9.2.1 Building a strong foundation

The first critical success factor that should be achieved when PMO is being created is the suitability of the PMO with respect to the organizational structure, and the selection of the most appropriate archetype while commencing the PMO planning phase since the creation of PMO counts on the organizational structure. Indeed, there are two main types of organizations; the first is the centralized organization which has tightly structure of decision making process that is normally handled by one or few number of members inside the organization. So, this type of organization, centralized, possesses the project manager and undertakes the projects instantly through top-down approach. In the top-down approach, higher management will grant their full support to the PMO since they are the initiative of the decision making process, while staff are not willing to fulfill the required tasks and objectives and they normally resist change. Therefore, PMOs should achieve the staff's commitment and avoid any resistance to ensure the success of the PMOs.

In addition, the second type of the organization is the decentralized organization, which has loosely structure; within this type the decision making prerogative is accessible for all staff's levels. Therefore, this type of organization has a great relationship with the PMO since project managers are possessed by their functional department through bottom-up approach. Same while, in the bottom-up approach, PMOs achieve a full support of the staff since they participate in the decision making process and PMOs should achieve the higher

management, or stakeholders, support as well to ensure the success of the PMOs' mission via PMOs' functions such as regular progress reports, meetings, and training conferences.

2.9.2.2 Establishing the background

It is crucial to realize the background behind the decision of having a PMO, and to know the person/entity behind that decision and know if it is an internal decision or external recommendation by another party or stakeholders. Furthermore, it is an important factor to know the objectives of establishment such PMO and the anticipated values to the organization to know the critical factors which will judge the PMOs' success or failure.

Indeed, recognizing such factors, drivers, will enable the PMOs to determine the most important areas to the stakeholders, and it will support PMOs to boost the project success and to deliver the different projects according to their baselines.

2.9.2.3 The right project to the right manager

It is worth to point out that PMOs can be classified on two main attributes; the first is the administrative PMO which concentrate on the projects' activities, resources, and data to furnish the project leaders with the required administrative assistance. While, the second is knowledge-intensive PMO that is responsible to guide the different projects according to the appropriate standards and methodologies and gain lessons from other projects' failure and/or success to enhance the maturity level of both the PMO and organization.

Therefore, knowledge-intensive PMO can classify project manager according to their awareness, qualifications, and interest. Thus, the most important segmenting is to divide the available project managers into two key kinds, the first is the business orientation project managers who feel convenient while addressing the business matters such as stakeholders' satisfactions and business case analysis, while the second is the technical orientation project managers who feel convenience while dealing with the technical topics such as conceptual/detailed design, and testing and commissioning.

Accordingly, competency of the project manager is a critical success factor since Julian (2008) asserts that the skills of the project leaders can be realized when he transfers successfully the experience of the previous projects to the ongoing projects to enhance the performance. In addition, Gale (2010) confirms that skilled PMO leader should guide his staff through exploring their main problems and solve them to adhere to the objectives and goals.

Indeed, PMOs need both of these two types of project managers since there are many variances among the available projects and the different required rule of PMOs in each of those different types of projects, and PMOs is responsible to select the most appropriate project manager according to the nature and characteristics of the project.

2.9.2.4 Clear Reporting lines

PMOs should have explicit roles and responsibilities and obvious determined reporting lines, so we have the following three choices to achieve these targets goals:

The first option, establish the PMO such as distinct entity that has enough independent power to manage the entire projects tasks via the PMO, but this power should not harm the teamwork environment and relationship with other units. The merits of this choice are that; the PMO is a focal point which furnishes the needed information and data, while making the decision is simple since there is only one way to make the decision by the higher management, and finally project managers normally obtain the essential boost while working in such cooperative environment.

In the contrary, the demerits of this option are; the cooperation of the functional units cannot be guaranteed since they are not interested in the main project activities, also PMO may be considered project watchdog that prevent any perfect project knowledge to be transferred out of the PMO itself, and the main demerits is that choice should be established only if the organization has a culture of teamwork and good relationships among different units to undertake the sophisticated projects.

The second option, the PMO consider a team reporting to a higher management in the functional units. The merits of this option, it is suitable for organizations which have several autonomous missions, moreover it increases company's profit because it maximizes the knowledge sharing since PMO reports to the functional manager in the business unit.

The last option is to create regional PMOs at different geographical locations to supervise the domestic projects and allocation of resources needed and the purpose of these PMOs is not to provide the required knowledge, but to provide all knowledge to the individuals at all levels. The advantages of this option are; it can solve any problem according to the local laws, procedures, and culture.

2.9.2.5 PMOs charter and related documents

Effective PMO has extremely explicit documents that confirm its truthfulness. There are three main documents which are included the key aspects that should be handled by PMO according to the following:

- PMO charter, this document should be written since it may be a suggestion to create a new PMO, or to affirm the functions of an existing PMO, or to revise its functions. Therefore, PMO charter is called the roadmap of the PMO and it should explicitly define the aim of establishment the PMO, its roles and responsibilities, its influence and power, its stakeholders, and the anticipated goals that should be achieved by PMO.
- PMO policy, this document should include risk management, communication management, and human resource management that will be used to align the PMO with the organizational goals and objectives to maximize the organizational profit.
- PMO methodology, this document should include methodologies, procedures, and metrics that should be used to deal with the organizational business need, and it deals with the required budget, status report, the risk management, change management of the projects.

It is worth to highlight that any deficiency of these documents might have multiple effects since any shortage of the explicitly of the PMO functions will result in the truthfulness of the PMO itself.

The above study by Desouza and Evaristo (2006) overlook many CSFs that are important to be realized to ensure the success of the PMOs, and this shortage is covered by Andersen et al. (2007) who assert that the CSFs of the PMOs includes the following:

- Higher management's commitment to boost the PMO, same is confirmed by Zwikaël (2008). Same while, Munns and Bjeirmi (1996) confirm that one of the main failure of the project management is the absence of the senior management support.
- Meet the actual organizational requirements to enable stakeholders to realize the benefits of PMOs by carrying out stakeholder analysis before the establishment the PMOs itself, and design the PMOs structure should be according to the requirements and avoid bureaucratic unit.
- PMOs staff should have cooperation attitude, but they should not be secretaries.
- Duties of the PMOs should be without payment for the projects.
- Commence quietly the activities of PMOs with the main tasks and enable the graduation of the PMOs' responsibilities with time.
- PMOs staff and leader should be competent and skilled enough to deal with PMOs functions.
- Concentrate on the development of the project management methodologies and techniques, same is asserted by Kerzner (2003).

Therefore, both of Desouza and Evaristo (2006) and Anderson et al. (2007) studies regarding the critical success factor for PMO can be compared as the followings:

<u>Desouza and Evaristo (2006)</u>	<u>Anderson et al. (2007)</u>
- PMO should be established based on organization culture.	- PMO should be established according to its goals.

- Concentrate on stakeholders' requirements.	- Concentrate on enhancing of project management practices.
- Having two different categories of PMs, business and technical oriented PMs.	- Hiring high skills senior PMs.
- Achieving stakeholders' satisfactions.	- Achieving higher management commitment

Table 2-1 Comparison between Desouza and Evaristo (2006) and Anderson et al. (2007)

2.10 Link between Critical Success Factors of PMO and its Added Values.

Since, critical success factors are available everywhere and it is not common for all the projects, according to the confirmation by Thi and Swierczwk (2010), it is crucial to recognize the nature of the relationship between the CSFs of PMOs and the value that can be added by PMOs to the organization through the project's success and achieving the organizational objectives and targets. Therefore, Dai and Wells (2004) claim there is a direct relationship between the PMOs functions and the project success. Whereas, Kwak and Dai (2000) observe there is a direct relationship between PMO effectiveness and its success.

Meanwhile, Thi and Swierczwk (2010) and Andersen et al. (2006) confirm that there is a positive relation between meeting the critical success factors of PMOs and success that can be achieved by PMOs to add values to their organizations.

2.11 Metrics to Assess PMOs.

It is worth to define both of performance and success prior to discuss the metrics that can be used to evaluate the PMOs.

2.11.1 Definition of Performance

Aubry et al. (2007) state that the root of the term performance is the French word “parfournir” which is known nowadays as what is achieved. Furthermore, Nemanich and Keller (2007) confirm that performance is consists of two main parts: the first is what entity/employees do, and the second is how they do those jobs since performance is the evaluation of the accomplishment of the organizational goals and objectives by the entity/employees. So, performance should be evaluated according to achievement of the success factors. While, Nancy et al. (2007) affirm that performance should ensure the customers and project teamwork members’ satisfactions.

2.11.2 Definition of success

Achieving the success is one of the main targets of the PMOs to add values to their organization. Accordingly, it is a fruitful aim to define the success firstly, hence Andersen et al. (2006) assert that success is not viewed as it was in the past as accomplishment of the project/task within the estimated cost and schedule, but success consists of two main components; the first is the project management success, while the second is the product success.

Furthermore, Kerzner (2001, P.63) asserts that the success has been revised to include accomplishment of the following of success factors figure 2-9. In this table, the primary definition of success is from the clients’ perspective; while the secondary definition is from the organizational perspectives. In addition, Rad (2001) argues that success is recognized by achieving the desired performance within the three constraints which are cost, time, and quality. Subsequently, success definition can be extended to include not only the customers’ satisfaction, but all stakeholders’ satisfactions including vendors, contractor, and supplier.

Primary	Secondary
<ul style="list-style-type: none"> • Within time • Within cost • Within quality limits • Accepted by the customer 	<ul style="list-style-type: none"> • Follow-on work from this customer • Using the customer's name as a reference on your literature • With minimum or mutually agreed upon scope changes • Without disturbing the main flow of work • Without changing the corporate culture • Without violating safety requirements • Providing efficiency and effectiveness of operations • Satisfying OSHA/EPA requirements • Maintaining ethical conduct • Providing a strategic alignment • Maintaining a corporate reputation • Maintaining regulatory agency relations

Figure 2-9: Primary and secondary success factors (Kerzner 2003, P.63)

2.11.3 Metrics

One of the best studies that deals with the metrics to assess PMOs is done by Desouza and Evaristo (2006) since they confirm that PMOs should be evaluated and measured to ensure that it is a beneficial tool to enable the organizations to achieve their goals and objectives, but those metrics to assess PMOs performance should be granted a reasonable period to PMO to show their contribution to the organizational success. Afterwards, many enquiries should be observed to judge on the benefits of the PMOs, and these inquiries may include the following key points:

- After a specified duration, like 12 months, is there noticeable progress in the project success?
- Is the management skills of the Project management teams have been enhanced or still the same as before the establishment of the PMOs?
- Is the dissemination of information, procedures, approaches, and knowledge transference better or still at the same level?
- Are the Projects completed in more efficient and professional ways to maximize the organizational benefits or not?
- Are the stakeholders more participated and satisfied or not?

Desouza and Evaristo (2006) affirm that the company should recognize the main important areas of interest prior to identify the measuring methods of the PMOs' influence on those areas since there are interior and exterior metrics that should be measured out to assess the success and enhancement of the performance of the PMOs, and these metrics are:

(I) Project-centric

It is related to the measurement of any progression in project management areas such as reducing the required time and endeavors to generate the progress reports and earlier realization of any project problems and any expected deviation from project baselines. Moreover, it can be related to the improvement in the production process of the project's product.

(II) PMO-centric

It is related to the measurement of the effectiveness and efficiency of the PMOs to carry out their activities like boost the PMOs maturity level, improve the management of the projects outcomes, and enhance the communication.

(III) Business value-centric

To measure the added value to the organization through standardizing the project management methodologies and procedures that are one of the key functions of the PMOs which measure the effectiveness stage of the PMOs. This can be measured through notice any more percent to accomplish the projects within its baselines and any improvement in achieving the organizational goals within specified period.

2.11.4 Measuring Process

Defining the measuring process is significant to ensure the success of the measurements. Therefore, Power et al. (2005, p.190) argue that there are three steps to measure any process; the first is the most crucial stage to measure any process that is the definition of the process itself to have an agreement on what should be measured and how/when to be

measured. The second step is defining the feature that should be measured and in this step Desouza and Evaristo (2006) confirm that measurement should be normally carried out for features like the duration passed to accomplish a task and the critical factors appear during carrying out that task, while the third step is the examination of the measurements that included two subjects; the first is the past information of the process and second is the stranger data.

Indeed, the past process information allows the organization to make comparison between the last and current results, but this comparison will not grant the organization something shiny, but it furnishes the organization with some useful indicators to maximize the positive areas and minimize the negative ones. Thereafter, it is so important to compare the results of measurement with another organization's results in the same field through benchmarking. So, we have two kinds of benchmarking, the first to compare the results with an organization which has the same position in the industry and this type of benchmarking is beneficial when the organization starts the process since it allows the organization to know the right position it should be. The second type of benchmarking is to compare the organization's results with the field leader and this can be used when the organization wants to ride the ladders to reach the highest level in the industry.

2.12 Contribution of Effective PMO in Organizational Performance

Defining obvious functions and roles of the PMO should enhance the entire organizational performance. Therefore, Pellegrinelli and Garagna (2008) point out that one of the main functions of the PMOs is to enhance the organizational performance, while Kwak and Dai (2000) assert that PMO is a management tool that enables the organization to enhance its performance and gain the maximum values of its projects.

Accordingly, if the functions of the PMO are not well defined, its contribution to the organizational performance will not be tangible and it may result to lose the higher management support that is a critical success factor to have an effective PMO.

Moreover, Maylor (2006, p.88) confirms that PMOs furnish the appropriate techniques and tools that lead to enhance the overall organizational performance through deliver successful projects, and he confirms that there is a relationship between having PMO and achieving the strategic goals of the organization that enables the senior management to realize the values of the PMO.

Chapter 3 Conceptual Framework and Study Hypotheses

3.1 Introduction

This chapter contains the conceptual framework of the study, section 3.2, which was developed according to the literature review in chapter two, while two different conceptual framework figures have been used to illustrate the conceptual framework. The first one, figure 3-1, is a traditional figure that gives a clearer emphasis to the hypotheses to avoid any confusion for the readers, while the second one is graphical representation that has two figures, figures 3-2 and 3-3, which provide pictorial illustration of the conceptual framework.

Therefore, figure 3-2 shows a high-level of CF, while figure 3-3 illustrates detailed CF which includes all the independents and dependents variables that have been examined through a quantitative approach via SPSS software.

Moreover, section 3.3 includes the research hypotheses that will be examined to explore the different relationships between the independent and dependent variables.

3.2 Conceptual Framework

The concept, research idea, of this dissertation is to examine the link between achieving (meeting) the critical success factors (CSFs) of the CEPMOs and the added value by the CEPMOs to the organizations according to figure3-1

Meanwhile, figure 3-2 represents a high-level presentation of the conceptual framework since it represents the hypothesis H1, which is the positive relationship between achieving (meeting) CSFs of CEPMO and its added values to the organization.

This study has used a wheel (which will drive the organization on the way of success) as shown in figure 3-3 that consists of two main circles, the outer which represents the critical success factors of the EPMO, while the inner circle represents the added values by EPMO to the organization to enhance its performance.

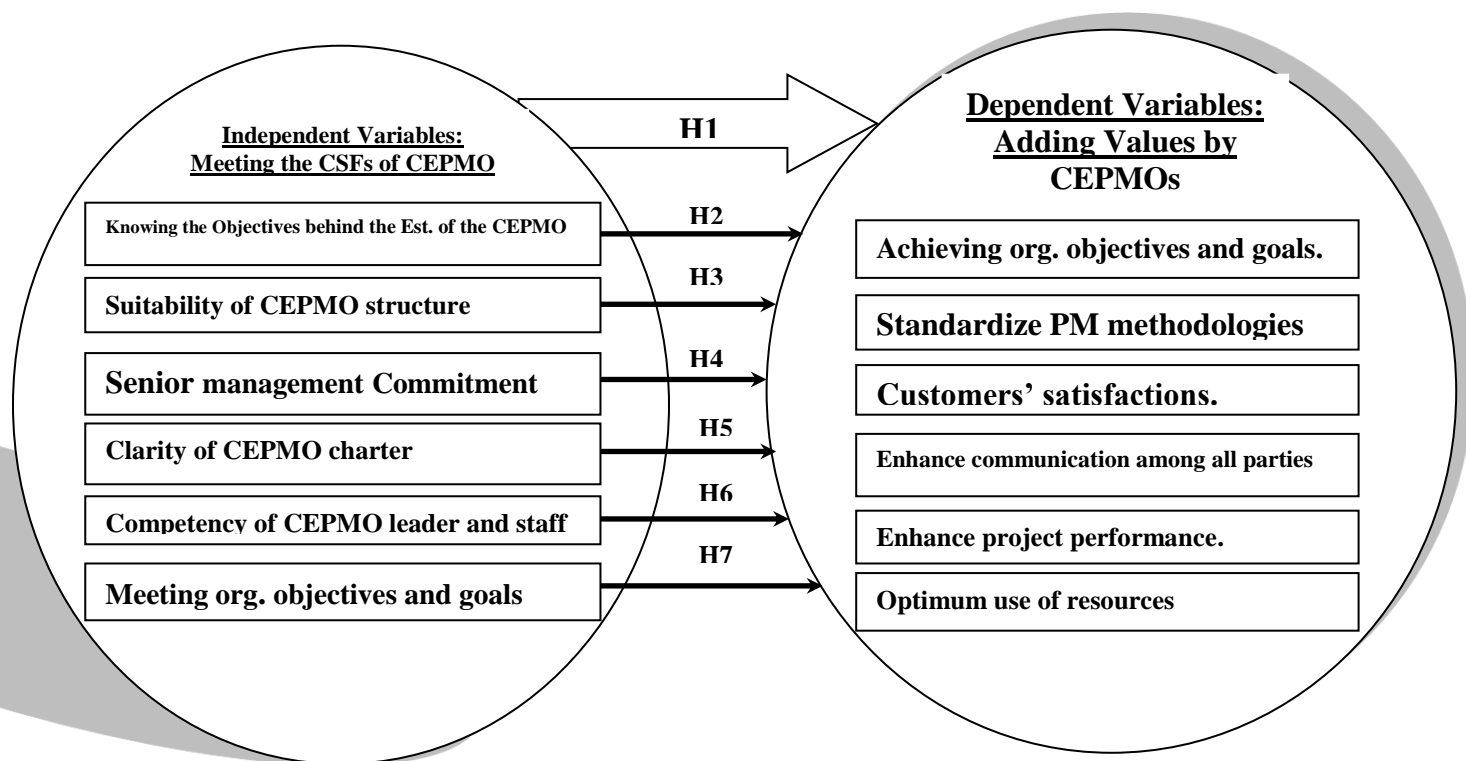


Figure 3-1: Traditional Conceptual Framework

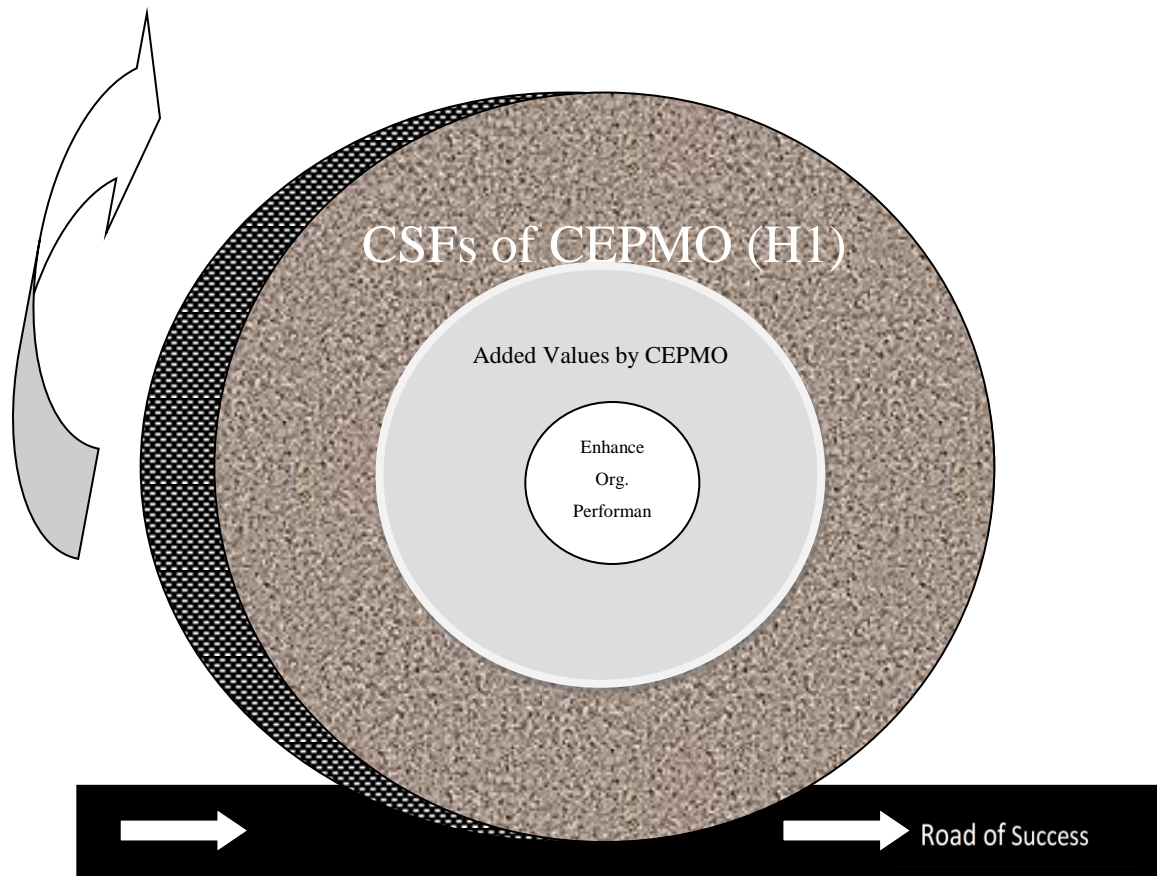


Figure 3-2: Represents a high-level of the conceptual framework.

Furthermore, the literature review discussed the previous and the most recent definitions of the PMOs and it mentioned the different roles and functions of the PMO within different time intervals to show the evolution of the PMOs to enable the readers to realize the nature of PMOs, meanwhile this paper showed the benefits and threats of having PMO to enable the organization making the right decision regarding to have a central EPMO or not.

Moreover, the paper described the dynamic nature of the PMO since Aubry et al. (2009) argued that PMO is not a static entity and it is normally changed with time according to changes inside and outside the organization, hence it can lead the changes at its organization, so the life cycle of the PMOs and the different models, included sustainable model, of the PMOs have been discussed.

Concurrently, there are two key topics which are CSFs of CEPMOs and the added value by the CEPMO, hence the theoretical framework is included the critical success factors of the EPMOs that were discussed in detail to know the sources of these CSFs and its effects to encourage EPMOs leader and his project managers to achieve those CSFs to ensure adding value to the organization, while literature review provided the organization with the required metrics to measure and judge the success and performance of the PMOs and it differentiated clearly between the definition of success and performance and shown how can central EPMO contribute the enhancement of the organizational performance.

Accordingly, the conceptual framework is being illustrated through figure 3-3 which illustrates six independent variables that represent the key critical success factors CSFs of the CEPMO which are: knowing the objectives behind the establishment of the PMO; suitability of the CEPMO structure with respect to the organizational structure; senior management's support; clarity of CEPMO charter; competency of the CEPMO's leader and its staff; and meeting the organizational objective and targets.

Meanwhile, there are six dependent variables that represent the added value of the CEPMOs to the organizations which are: achieving the organizational strategic objectives and goals; standardize project management methodologies; enhance communication among all parties; optimum use of resources; enhance project performance; and achieving customers' satisfactions.

Therefore, the following figure 3-3 shows a detailed conceptual framework through a wheel that consists of two main circles; the outer one represents the six independent variables (critical success factors of CEPMO) that are connected and affected each other and affected the other six dependent variables since they are included in the same wheel, while the inner circle represents the six dependent variables (The added values by CEPMO) which are connected and affected each other as well. It is beneficial to highlight that the conceptual framework was represented as a wheel that drives the entire organization on the way of success to achieve the organizational goals and objectives that enhance the overall organizational performance if the CSFs of CEPMOs will be met.

Therefore, this research is trying to explore the relationship between achieving the CSFs of the CEPMOs (causes) and its added value (effects) via analysis the existing different research (journal articles, books, electronic sources, ...etc.) that dealt with the same topic.

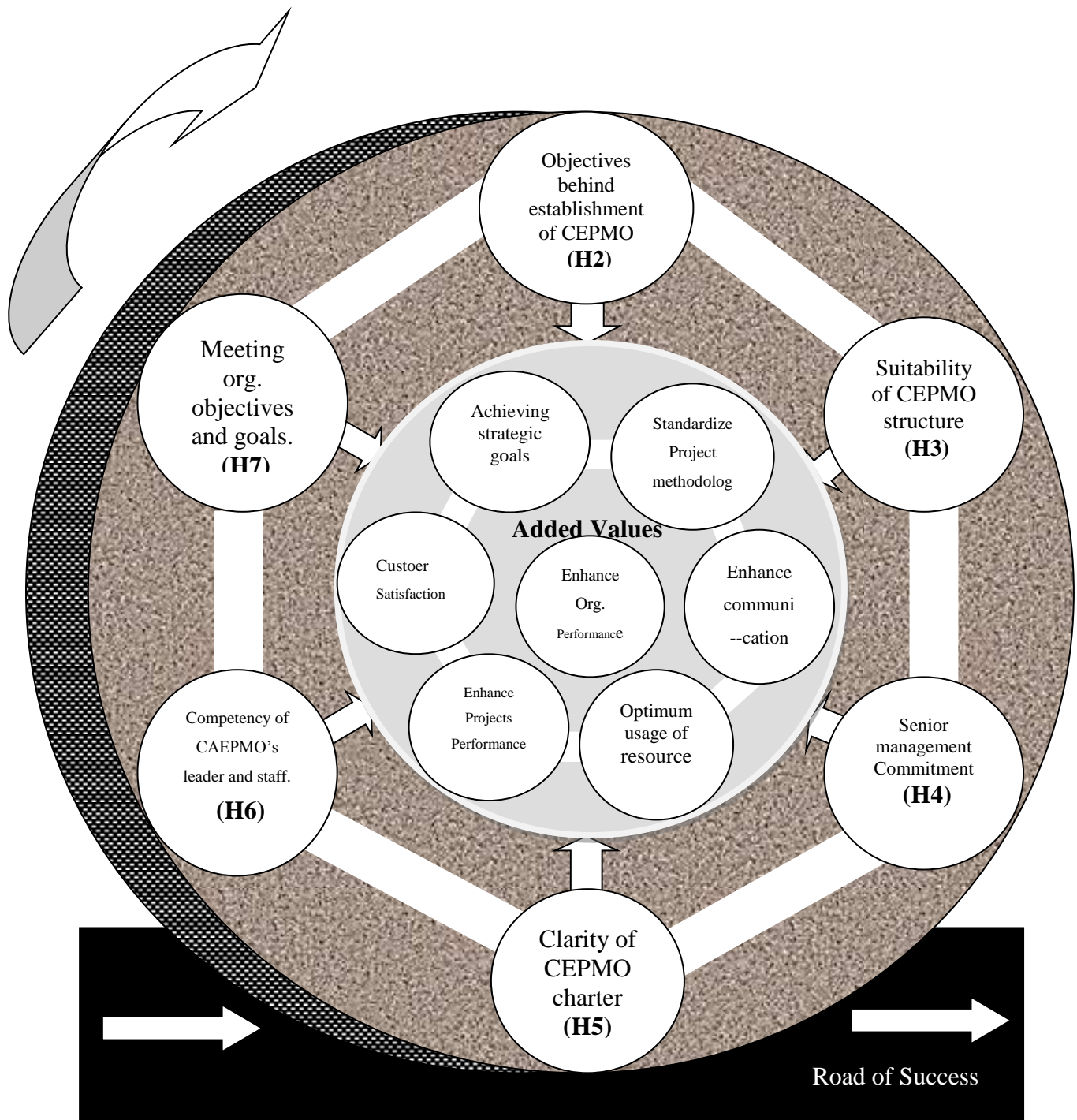


Figure 3-3: A wheel on the road of success representing the detailed conceptual framework.

3.3 Research Hypotheses

This paper includes a relevant literature review (chapter two) that related to the CSFs of CEPMOs and their effects on the added value of the CEPMOs that elevates different hypotheses that need to be tested through statistical analysis using SPSS software. According to Thi and Swierczwk (2010) and Andersen et al. (2006) there is a relation between achieving the CSFs of the PMOs and its added value.

Subsequently, according to the different theories dealt with the critical success factors of PMOs that are described in the literature review chapter two, seven specific hypotheses is being developed. Meanwhile, there are six independent variables that represent the key critical success factors (CSFs) of EPMO which are: knowing the objectives behind the establishment of the CEPMO; suitability of the CEPMO structure with respect to the organizational structure; senior management's support; clarity of CEPMO charter; competency of the CEPMO's leader and its staff; and meeting the organizational objective and targets.

Concurrently, there are six dependent variables that represent the added value of the CEPMOs which are: achieving the organizational strategic objectives and goals; standardize project management methodologies; enhance communication among all parties; optimum use of resources; enhance project performance; and achieving customers' satisfactions.

Therefore, the research hypotheses are listed as the followings:

Hypotheses

Hypothesis 1 (H1):

There is a positive relationship between achieving (meeting) CSFs of CEPMO and the value added to the organization by its CEPMO.

Hypothesis 2 (H2):

There is a direct relationship between knowing the objectives behind the establishment of the CEPMO and the added value by the CEPMO.

Hypothesis 3 (H3):

There is a positive relation between suitability of the CEPMO structure and the added value by the CEPMO.

Hypothesis 4 (H4):

There is a positive relationship between senior management commitment and the value added by the CEPMO.

Hypothesis 5 (H5):

There is a direct relationship between clarity of CEPMO charter and the added value by the CEPMO.

Hypothesis 6 (H6):

There is a positive relation between competency of the CEPMO's leader and its staff and the value added by the CEPMO.

Hypothesis 7 (H7):

There is a direct relationship between meeting the organizational objective and targets and the value added by the CEPMO.

Chapter 4 Research Design and Methodology

4.1 Introduction

This research paper has used a deductive research approach that is more suitable to examine the relation between achieving the CSFs of CEPMOs and its added value. Ketchen et al. (1993) confirmed that the deductive approach is the appropriate approach to test the relation between organizational structure and its performance. Hence, a deductive approach has been used in this research since the different definitions of PMO defined PMO as an important entity of organizational structure that affect the organizational performance through its adding values.

This chapter includes section 4.2 that explains the criteria and approaches that have been used to investigate the research hypotheses (relationships) that were developed in section 3.3 in chapter three and the way to measure those relationships and the reasons behind selecting of those method and approach.

Section 4.3 highlights the research design and it includes the definitions of population and sample and how the sample of the population was selected. Moreover, this section includes the structure of the questionnaire and the reasons behind piloting this questionnaire and the ethical consideration that has been taken into consideration during conducting this survey.

Furthermore, section 4.4 is related to the different variables that have been tested in the questionnaire to test the relationships among those variables to observe the results and findings of this research via using statistical software package PASW version 20 and its different tests.

Eventually, section 4-5 includes the limitation of this study that should be taken into consideration while considering this study.

4.2 Selection Criteria of the Research Approach

Researcher should select the most appropriate research approach to investigate a specified research problem. Therefore, Kothari (2004, p.5) affirmed that there are two main research approaches which are qualitative and quantitative approaches, while the last one could be divided into three more types which are inferential, experimental, and simulation approaches. Therefore, he confirms that the key advantage of the experimental approach is the significant control on the research environment. Indeed, in the experimental quantitative approach the researcher arranges a group of factors which represent the causes to study their influence (effects) on another group of factors.

Accordingly, this research has used quantitative research approach as dominant to examine the relationships between the CSFs of the CEPMOs and its added value because Tewksbury (2009) urged that quantitative is more powerful to deal with numerical data than qualitative approach since it is scientific method that can use mathematical statistics method (such as SPSS), while qualitative method deals better with the meaning or concept of issues.

Trochim (2004, p.50) asserts that there are two ways of reasoning in the research which are deductive and inductive approaches. In deductive the researcher performs his research from very generic to much defined concept to identify the theoretical theory and the hypotheses can be developed that researcher should examine them and this method is named top-down approach as shown in figure4-1. In the contrary, Trochim (2004, p.50) confirms that in the inductive approach the researcher develops his research from very particular concept (understanding) to vast theory and afterword that is the reason to call this approach down-top approach as shown in figure 4-2.

In addition to this definition of deductive approach, Saunders et al. (2003, p.38) assert that in deductive approach the theoretical concept is developed before gathering the data, while in inductive approach researcher starts gathering the data firstly and afterword he evolves the concept.

Accordingly, this research used the deductive approach since this paper started to study the entire concept, functions and roles, importance and threat of the PMOs (vast concept) until observing the relationship between the CSFs of the CEPMO and its added value (definite concept) and hypotheses were developed. Afterword, gathering the imperial data has been started from the accessible sources to test the hypotheses of the research.

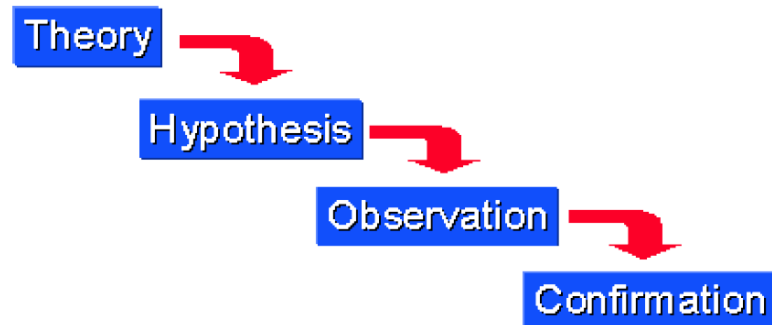


Figure 4-1: Deductive Reasoning Approach (Trochim 2006, p. 50)

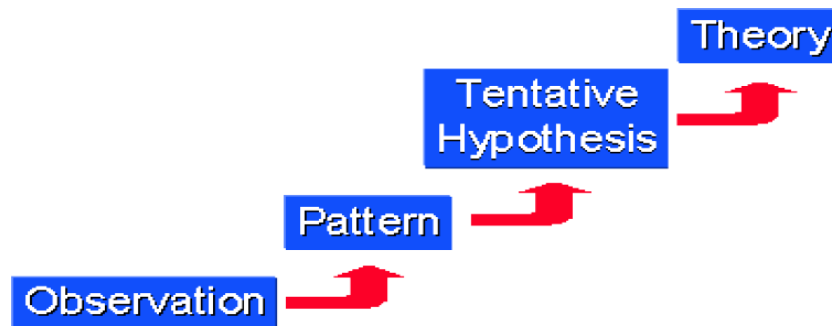


Figure 4-2: Inductive Approach (Trochim, p. 50)

4.3 Research Design

The function of the research methodology is to support the researcher to find a solution of the research problem through gathering information about that problem, so the research methodology can be defined as the roadmap to obtain a solution for a research problem.

Therefore, Saunders et al. (2003, p. 602) define the research methodology as the theory that guides the research to be carried out in effective and efficient way, taking into

consideration the academic and philosophical hypotheses that the study will be done based on it and the impact of these hypotheses on the research method.

Accordingly, the required information (that will be processed through SPSS to get results) for this research was gathered through a questionnaire that was forwarded to competent and skilled project managers at different contracting organizations within UAE. Hence, the stated questionnaire comprised questions that are related to the demographic variables of the participants' project managers, independent variables that are the CSFs of the CEPMOs, and finally the dependent variables that are related to the added value of the CEPMOs.

It is worth to highlight that the questionnaire was pre-tested through forwarding it to four of the best educated, skilled, and experienced project managers at several organizations to gather their feedback regarding the structure, phraseology, and clarity of the questionnaire that were incorporated in the final version of the questionnaire prior to forwarding the final questionnaire to the participants (population sample). The final version of the questionnaire is in appendix 3

4.3.1 Sample of the research

Sampling techniques are available in all over the global since it can be used in any type of research that helps researchers to minimize their effort and cost to carry out their research since, Saunders et al. (2003, p.204) affirm that it is not possible to gather or analyze all the accessible data according to some restrictions such time, cost, and resources.

Therefore, sampling methods furnish the researcher with a variety of methods that let the researchers be able to decrease the data that should be gathered by take into their account only the data of specified group instead of all the available cases or element according to figure 4-3. However, sample should represent the whole population to enable the researchers to generalize the results and finding of the research. Indeed, it is fruitful to describe the meaning of population since in the research it does not mean its known

meaning as the people, but it means the entire cases in which the sample will be selected from.

Accordingly, in this research paper, the sample was selected from the contracting organizations in UAE that are suffering from a noticeable fluctuation of their PMOs' added values to the organizations according to their failure to achieve the CSFs of their PMOs, and organizations that have effective EPMOs that add the appropriate values to their organizations.

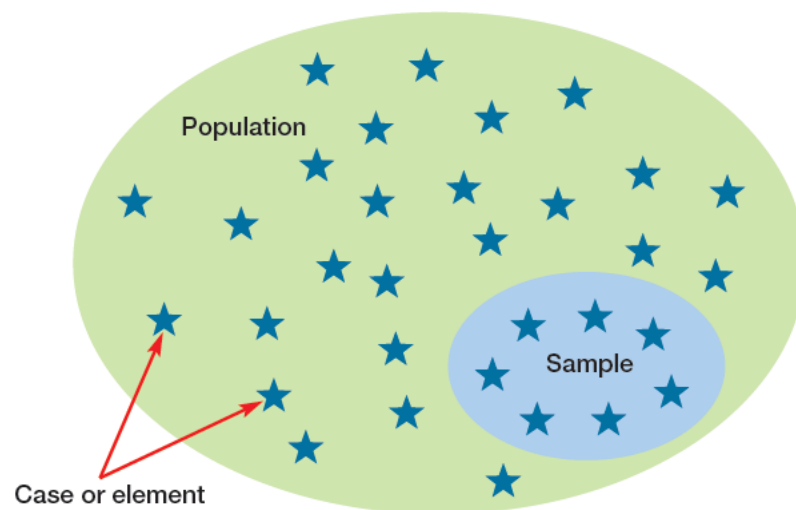


Figure 4-3: Population, sample and individual cases (Saunders, Lewis and Thornhill 2007, p. 205)

4.3.2 Description of sample

The questionnaire was forwarded mainly to PMOs leader and senior project managers who have many years of experience working at PMOs or dealt with it. Therefore, the sample was accurately selected to represent the population to generalize the results and findings of this paper to the entire population. Hence, both organizations which have/ not have PMO that do not add the expected values and other organizations which have effective PMOs that add the expected value to their organizations were selected to get the feedback from both sides who have and have not PMOs to reveal the value of having CEPMOs or to know the threat of having PMO.

Therefore, the questionnaire was forwarded to one hundred participants, while replies from sixty two participants within two weeks have been received, to reveal their opinions and believes about the relationship between achieving the CSFs of CEPMO and its contribution to enhance the performance of the entire organization.

It is worth to highlight that this questionnaire was forward to the participants at ten organizations, five out of ten have/have no PMOs and the remaining five organizations have effective EPMOs that add the appropriate values to their organizations. Moreover, the nature of the survey helped to gather a vast range of data, more than interviews, such as opinions, values, and believes of the participants and to avoid bias that sometimes takes place in an interview. Concurrently, participants in a questionnaire are normally willing to share their personal data since they are not uncovering it to another person in face to face interview that increases the reliability of the results of the study.

4.3.3 Construction of the Questionnaire

In this research the closed-ended questionnaire has been used that was defined by Dawson (2002) as the questionnaire where the participants do not use their own phrases to respond since the research provides the answers categories that the respondents will select one of them for each question. Moreover, the questionnaire will be self-administrated questionnaire since the participant will respond to the questions at their places and at their convenient time and they have sent it through E-mails as specified by Dawson (2002, p.87&88).

Furthermore, the followings considerations have been taken into consideration since Dawson (2002, p. 89&90) asserted that questionnaire should be well structured and it should avoid several issues that may confuse the participants and may lead to incorrect answers that will affect the overall findings and results of the questionnaire and these issues such as:

- Avoiding technical idiom that may be unknown to some of the participants.

- Keeping-off any word that has more than a meaning to avoid participants' confusing and to save their time.
- Questionnaire should not include vague questions that may pressure the participants to wrong answers.
- Provide all the possible answers in case of using closed-ended questionnaire.
- Avoiding long questions and ordering them in the most appropriate orders.

Accordingly, the questionnaire has been organized in three main parts which are demographic variables, independent variables (key CSFs of CEPMOs), and the dependent variables (the added values by the PMOs). So, questionnaire was developed based on the observed CSFs of the PMOs (according to literature review chapter two) and the expected value added by the PMOs to its organization.

Concurrently, five questions were developed for each of the six key CSFs of the PMO, while five questions were developed for each of the main added values of the PMO. The main objective of developing five questions for each variable (dependent and independent) is to ensure the participant has understood the meaning of each variable and to ensure that the right answers have been gathered for each variable through having five answers for the same variable.

4.3.4 Piloting the Questionnaire

Dawson (2002, p. 89&90) confirmed that the researcher should pilot his questionnaire prior to send it to the final participants list, and he defined the term pilot as testing.

Therefore, the questionnaire has been sent firstly to definite numbers of people (who will participate in the final version of the questionnaire) who did not participate in the questionnaire structure to get their feedback regarding the structure and wording of the questions and it has been highlighted to them that it is a preliminary structures questionnaire.

It is worth to highlight that the participants' comments (at that stage) were very beneficial since they have highlighted that word (should) that was written in the most of questions should be deleted to give the participant more room to answer the questions (copy of pilot questionnaire is in appendix 4), while the second significant comment was to write in different color how can the participants select electronically the desired answering box for each question. Moreover, those limited participants recommended that each variable description should be written in different color font prior to break it down to its five questions.

Afterword, all the comments that were sent by those participants have been incorporated to ensure that each question will be understood correctly to get the right information from the questionnaire.

4.3.5 Ethical Considerations

Dawson (2002, p. 146-150) ensured that there is no researcher can perform his research without the support of other people, and to achieve this goal researchers should provide participants with something against use their worthy time in supporting the researchers and this can be done through dealing with their personal information and their organizational information honestly and within the research scope only and avoid distributing of such information to a third party and this is named "Research Ethic".

Accordingly, the following ethical principles were adhered as what was written by Dawson (2002, p. 150) which were written in the front page of the survey:

- Dealing with participant with full respect and honesty.
- Providing full details about the researcher and his research and its aim and objective.
- Providing details about the sponsor of the research.
- Given a clear statement about the utilization of the expected findings and results of the research.

4.4 Measures

4.4.1 Demographic Variables

The first portion of the questionnaire included the demographic data of the participants since the participants were asked to furnish general background information about themselves such as sex, level of education, age, nationality, marital status, number of work experience years, number of years at their companies, their role in the project, and their occupation level.

4.4.2 Independent Variables

This is the second portion of the questionnaire which represents the CSFs of the CEPMOs that should be achieved and it consists of six variables which are: knowing the objectives behind the establishment of the CEPMO; suitability of the CEPMO structure with respect to the organizational structure; senior management's support; clarity of CEPMO charter; competency of the CEPMO's leader and its staff; and meeting the organizational objective and targets.

This part consists of thirty questions, five questions per variable, while responses have been measured on five-point scale beginning 1, strongly agree to 5, strongly disagree.

4.4.3 Dependent Variables

This is the third, last, portion of the questionnaire which represents the added value by the CEPMOs which are: achieving the organizational strategic objectives and goals; standardize project management methodologies; enhance communication among all parties; optimum use of resources; enhance project performance; and achieving customers' satisfactions. This measure consists of thirty questions, five questions for each variable and responses have been measured on five-point scale beginning 1, strongly agree to 5, strongly disagree.

4.4.4 Method of Analysis

The survey comprised three segments which are demographic, independent, and dependent variables that are described in detail in the previous sections, while PASW has been used, Predictive Analytics Software, version 20 to analyze the collected data to observe the findings and results of this research.

Furthermore, five tests have been carried out to observe the relationships between achieving the CSFs of the CEPMOs and the added value by CEPMOs. The first test was used for descriptive statistics to analyze the demographic information of the participants, while the second test was the normality test to check the normal distribution of data, while the third test was the reliability tests that were performed to examine the reliability of this research constructs. Moreover, the fourth test was Pearson product-moment test that was used to measure the relationships between the different variables to assess the research hypotheses, and the final test was the regression test that was carried out to ensure the obtained results and finding of the previous tests.

4.5 Limitation of the Research.

This study paper has some limitations according to the followings that need to be considered while reading it and it should be addressed in the upcoming research:

- This research paper is limited to the contracting organizations within UAE context only, and its results and recommendations should not be generally used worldwide since the results of any research that carry out based on population sample, should be popularized within that population only.
- The results of this paper were observed through survey questionnaire which might be affected by the participants' tendencies and biases.
- The study examined only six CSFs of the CEPMOs while the literature review chapter has provided more CSFs that need to be examined in the upcoming research.

- Limited available number of reliable research sources, such as journal articles and reference books, related to the research topic. Nevertheless, the researcher did his best to get the most reliable research sources and data that collected from different reliable sources.
- Only sixty two numbers of completed questionnaires were gathered, so if the number of sample can be increased, the results may be differing from this research's outcomes.
- Time constraint of the registration time for the dissertation that limited the number of participants in the survey questionnaire to collect their feedback and carrying out the data analysis.

Chapter 5 Data Analysis and Results

5.1 Introduction

This chapter is developed based on the research methodology that was addressed in chapter four and the received feedback and answers from the participants in the research questionnaire; moreover this chapter shows the results and finding of the research analysis to examine the research hypotheses that were suggested in chapter 3.

In this chapter a presentation of the results and comments on the important data that included in tables and figures are provided to show their contents. Meanwhile, the discussion chapter six includes detailed discussion and comments on the research results and findings comparing with the literature review.

This chapter commenced with section 5.2 that shows the demographic data of the respondents, the sample since the participants were asked to furnish general background information about themselves such as sex, level of education, age, nationality, marital status, number of work experience years, number of years at their companies, their role in the project, and their occupation level, and these data give the reader an impression about the sample.

Section 5.3 this section starts with explanation on how to choose the most appropriate statistical tests and the results of normality tests were analyzed. Hence, the reliability test to examine the scale internal consistency was firstly carried out.

Section 5.4 correlation analyses was done through Cronbach's Alpha tools and Spearman's rho correlation test to identify the internal consistency of the research variables to examine their reliability of both dependent and independent variables.

Eventually, section 5.5 was included the linear regression analysis that was performed to know the ability of anticipating the value of any variable according to the value of other different variables and accurate analysis was presented to know that relationships.

It is worth to highlight that 62 filled-in questionnaires have been received out of 100 that were sent to the participants that represent a response rate of 62% and based on those feedback the following tests and analysis were carried out.

5.2 Demographic Results

The participants were asked, via the first part of the questionnaire, to furnish general background information about themselves such as sex, level of education, age, nationality, marital status, number of work experience years, number of years at their companies, their role in the project, and their occupation level. Table 5-1 shows the validity of the entire data that were collected through the questionnaire and as it can be observed there is no missing data.

Statistics										
	Sex	Education Level	Age	Nationality	Marital status	Years of work experience	No of years at current org.	Working with PMO	Role in project	Occupation level
Valid N	62	62	62	62	62	62	62	62	62	62
Missing	0	0	0	0	0	0	0	0	0	0

Table 5-1: the validity of the collected data from the survey.

5.2.1 Female vs. Male Population

According to the demographic analysis the results showed that the majority part of the respondents was male 67.7% according to table 5-2 which demonstrating the cultures of business and social communities in the Arab countries.

Sex				
	Frequency	Percent	Valid Percent	Cumulative Percent
Female	20	32.3	32.3	32.3
Valid Male	42	67.7	67.7	100.0
Total	62	100.0	100.0	

Table 5-2: Percentage of female and male

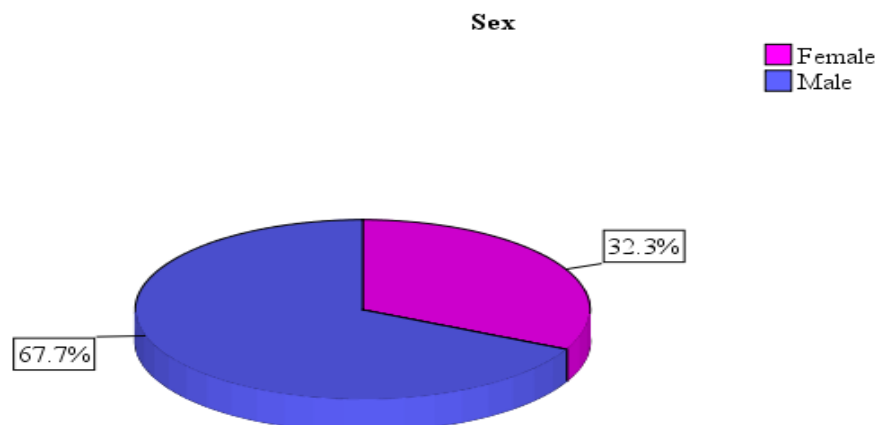


Figure 5-1: the percentage of female and male

5.2.2 Educational Level of Participants

The questionnaire exposed that all of the participants have university degree, while it shows that 22.6% of the participants have higher education such as Philosophy or Master degrees which gave more reliability to the survey results and findings. The remaining 77.4% has bachelor degree.

Education Level				
	Frequency	Percent	Valid Percent	Cumulative Percent
Master or above	14	22.6	22.6	22.6
Valid Bachelor	48	77.4	77.4	100.0
Total	62	100.0	100.0	

Table 5-3: Participants' educational level

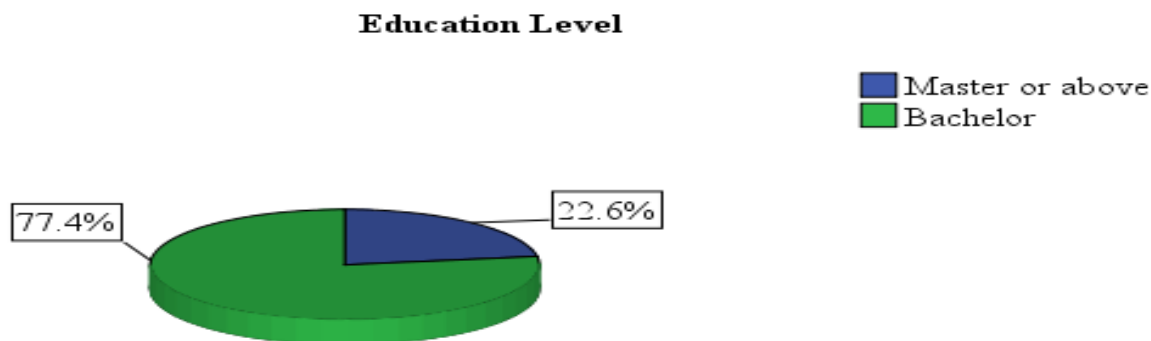


Figure 5-2: the educational level of the participants

5.2.3 Age of Participants

Both of table 5-4 and figure 5-3 show that around 92% of the participants are more than 35 years old, so they are mature enough in their carrier. Concurrently, 22.6% of the participants are 55 or above years old who are more professional in their carrier.

Age				
	Frequency	Percent	Valid Percent	Cumulative Percent
25-35	5	8.1	8.1	8.1
36-45	20	32.3	32.3	40.3
Valid 46-54	23	37.1	37.1	77.4
55 and above	14	22.6	22.6	100.0
Total	62	100.0	100.0	

Table 5-4: Different age of the participants

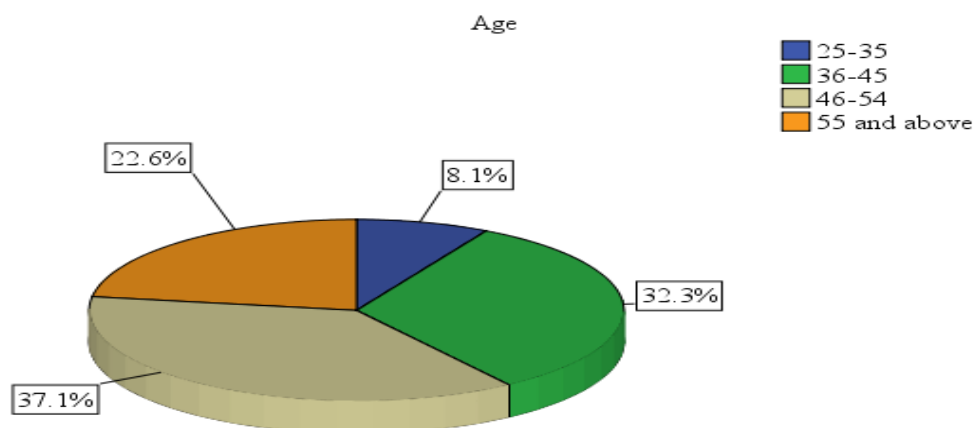


Figure 5-3: the percentage of each age categories

5.2.4 Nationality of Participants

The results of the survey revealed that most, 77.4%, of participants are expatriates, while 22.6% has UAE nationality and this is according to the nature of the population in UAE.

Nationality				
	Frequency	Percent	Valid Percent	Cumulative Percent
UAE	14	22.6	22.6	22.6
Valid other	48	77.4	77.4	100.0
Total	62	100.0	100.0	

Table 5-5: Nationalities of the respondents

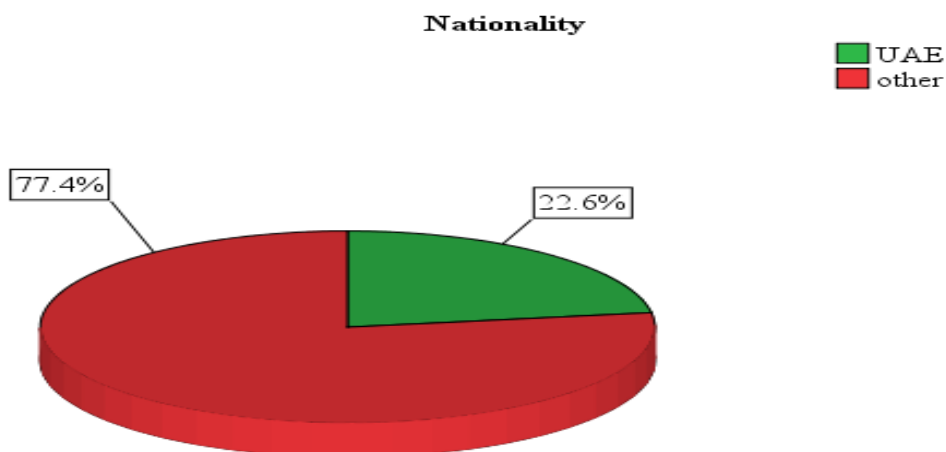


Figure 5-4: the percentage of the nationalities of the participants

5.2.5 Marital Status of the Participants

Both of table 5-6 and figure 5-5 demonstrate that the majority of participants are married, 67.7%, while only 11% are single and 14.5% is divorced.

Marital status				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	42	67.7	67.7
	Divorced	9	14.5	82.3
	Single	11	17.7	100.0
	Total	62	100.0	100.0

Table 5-6: Percentage of the marital status of the participants

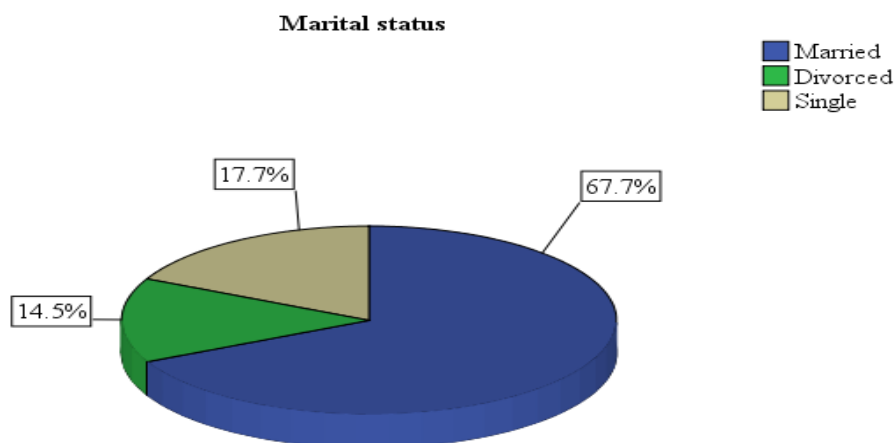


Figure 5-5: marital status of the participants

5.2.6 Number of Years of Work Experience

The participants were requested to provide the number of years of their work experience in the field of the project management, so their replies were that 30.6% has more than 20 years of experience, while 62.9% has more than ten years and 33.9% has 5-9 years and only 3.2% has less than five years of experience as it can be seen from table 5-7 and figure 5-6. Therefore, these percentage proved that the major part of the participants have significant experience in the project management that support the results of this research paper.

Years of work experience				
	Frequency	Percent	Valid Percent	Cumulative Percent
20 years or above	19	30.6	30.6	30.6
19-10 years	20	32.3	32.3	62.9
Valid 9-5 years	21	33.9	33.9	96.8
less than 5 years	2	3.2	3.2	100.0
Total	62	100.0	100.0	

Table 5-7: shows the number of years of the work experience

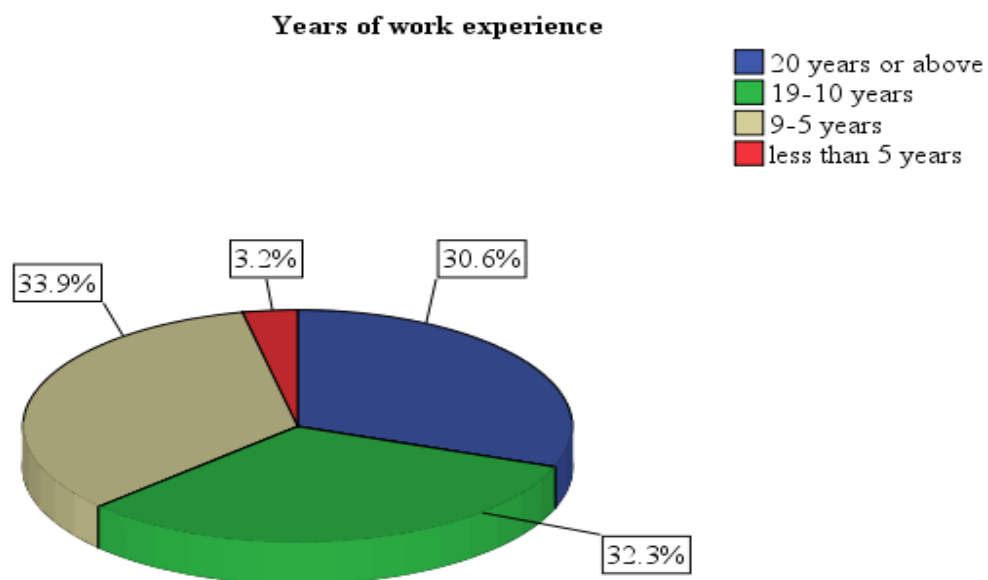


Figure 5-6: Years of work experience

5.2.7 Number of Years at the Current Organization

Table 5-8 presents that 14.5% has been working at the current organization for twenty years or more, while 27.4% between 10 to 19 years. Moreover, the major part of participants 46.8% has been working for the current organization for five to nine years, and only 1.6% has been working since less than five years.

No of years at current org.				
	Frequency	Percent	Valid Percent	Cumulative Percent
20 years or above	9	14.5	14.5	14.5
19-10 years	17	27.4	27.4	41.9
9-5 years	29	46.8	46.8	88.7
less than 5 years	1	1.6	1.6	90.3
5	6	9.7	9.7	100.0
Total	62	100.0	100.0	

Table 5-8: Numbers of years at the current organization

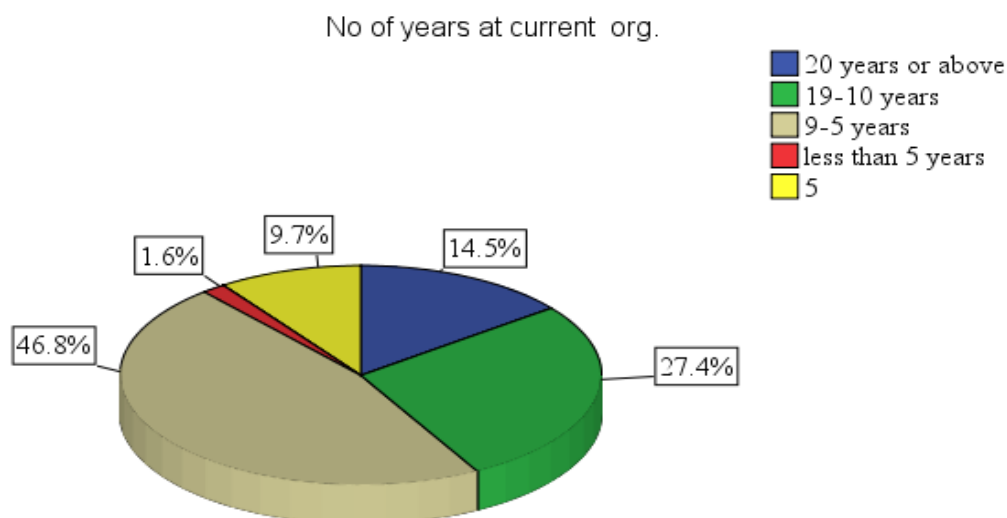


Figure 5-7: percentage of number of years at the current organization

5.2.8 Working with PMO

The participants in the questionnaire were requested to answer a question to know if they work with PMO or not, so table 5-9 illustrate that all, 100%, the participants work with PMO which shows their unique experience with PMO to assess its functions and benefits.

Working with PMO				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	62	100.0	100.0	100.0

Table 5-9: showing whether participant work with PMO or not.

5.2.9 Participants' Role in Project

One of the important questions in the questionnaire was about the role of participants in the project to exposure their responsibilities and their point of views. The results obtained, according to table 5-10 shows that most of participants, 45.2%, are project managers while 38.7% is program manager, and 8.1% is program director and same percentage for project support.

Role in project				
	Frequency	Percent	Valid Percent	Cumulative Percent
Project Support	5	8.1	8.1	8.1
Project Manager	28	45.2	45.2	53.2
Valid Program Manager	24	38.7	38.7	91.9
Program Director	5	8.1	8.1	100.0
Total	62	100.0	100.0	

Table 5-10: Participants' roles in project

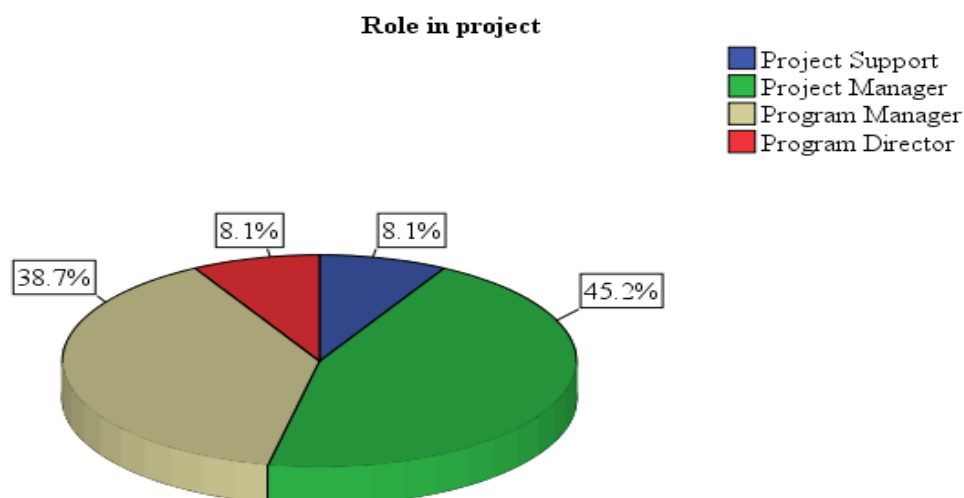


Figure 5-8: participation roles in project

5.2.10 Occupational Level of the Participants

In response to question number ten regarding the occupational level of the participants, most of those surveyed indicated that 32.3% is in middle management, while 30.6% occupies the upper management level. Moreover, 25.8 are in the level of project manager, but only 4.8% is in junior management level as it can be seen from table 5-11 and pie chart figure 5-9.

Occupational level				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Executive Level (CEO)	4	6.5	6.5	6.5
Upper management (Director)	19	30.6	30.6	37.1
Middle Management (Dept. Manager)	20	32.3	32.3	69.4
Project Manager	16	25.8	25.8	95.2
Junior Management Level	3	4.8	4.8	100.0
Total	62	100.0	100.0	

Table 5-11: Occupational level of participants

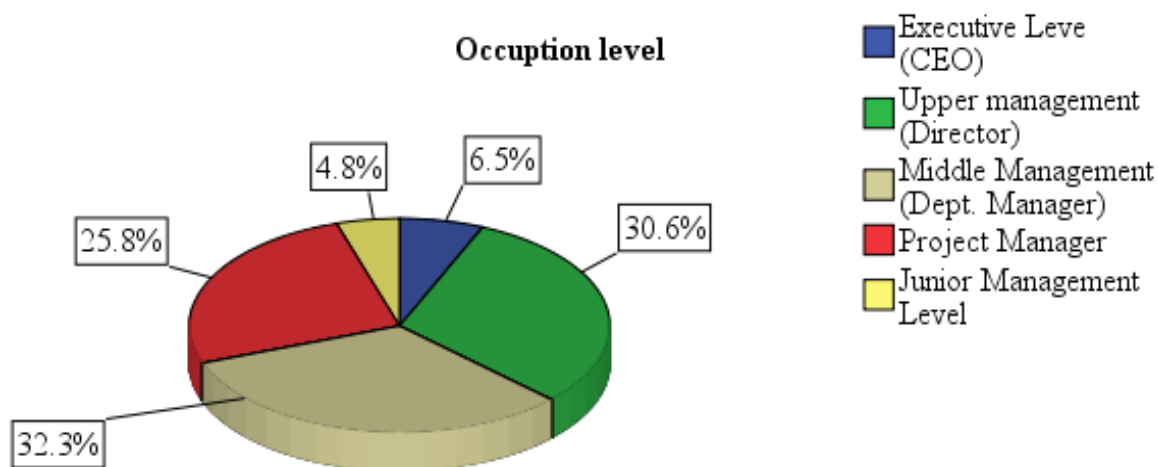


Figure 5-9: percentage of occupational level of participants

5.3 Inferential Statistics

5.3.1 Choosing the Appropriate Statistical Tests

Examining research hypotheses supports researchers and organizations to make the most appropriate decision on the right time to enhance the performance of their organization (Rajagopalan 2006, p.1). Moreover, Pallant (2011, p.102) confirms that the type of statistical tests should be selected according to the nature and kind of questions, variables, and finally the data that will be analyzed.

Accordingly, normality test was performed to check the normal distribution of data, while reliability test were performed to test the scale internal consistency. Afterwards, correlation and regression tests were carried out to examine the relationships between the independent and dependent variables and to explore the strengths of those relationships.

5.3.2 Normality Tests

It is worth to know how to differentiate between normally distributed data and non-normally distributed data, so Pallant (2011, p.59) confirms that the data are normally distributed if the shape of its curve has a bell shape through having the major frequencies in the middle and little frequencies are extremes as shown in figure 5-10.

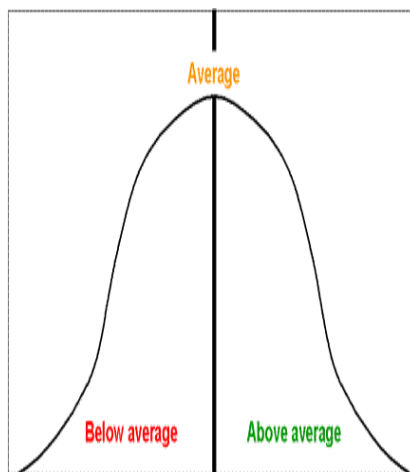


Figure 5-10: Sample of bill curve for normal distributed data.

Therefore, normality tests are required prior to carrying out the correlation and regression tests analysis and to identify the appropriate type of coefficient, hence Pearson's or Spearman's rho or both of them to be used in such further testing since Field (2009) ensure that Pearson's test should be used if we have normally distributed data, while Spearman's rho should be used if we have non-normally distributed data.

Therefore, the normality tests were performed to check the normal distribution of independent variables (meeting the CSFs of CEPMOs) and the dependent variables (Added values by CEPMOs).

Accordingly, Pallant (2011, p.63) highlights that if the value of sig. (p) of Kolmogorov-Smirnov and Shapiro-Wilk is more than 0.05, it means normally distributed data, while if the sig. value is 0.000 it means violation of normality. Meanwhile, Field (2009, p.139) confirms that skewness and kurtosis values should be close to zero to have normally distributed data, and table 5-12 can be used to understand the different meaning of values and signs of both Skewness and Kurtosis.

	Skewness	Kurtosis
Positive value	Many of scores on the left of the distribution curve	Pointy and heavy tailed distributed
Negative value	Many of scores on the right of the distribution curve	Flat and light-tailed distribution.
Zero	Normally distributed	
More than zero	Not normally distributed	

Table 5-12: Values and signs of Skewness and kurtosis and their meaning.

Accordingly, the test was done and the results are shown in table 5-13 Which illustrates that both of Kolmogorov-Smirnov and Shapiro-Wilk of all the independent and independent variables have values of zero or close to it ($p < 0.05$), so the data are not normally distributed, but Pallant (2011, p.63) emphasis that the value 0.000 of Kolmogorov-Smirnov and Shapiro-Wilk are normal values in large sample.

Furthermore, according to table 5-13 values of Skewness and Kurtosis are not equal to zero for the independent and independent variables, so the data are not normally distributed. However, Field (2009, p.139) confirms that significance tests of Skewness and Kurtosis should not be considered in large sample.

	Kolmogorov-Smirnov ^a Sig.	Shapiro-Wilk Sig.	Kurtosis Statistics	Skewness Statistics
Knowing the objectives behind the establishment of the CEPMO	.000	.000	.795	.963
Suitability of CEPMO structure with respect to organizational structure.	.000	.000	-.533	.431
Senior management commitment.	.000	.000	2.980	1.087
Clarity of CEPMO charter.	.000	.000	.238	.643
Competency of CEPMO's leaders and staff.	.000	.000	-.568	.332
Meeting organizational objectives and targets	.000	.001	1.510	.941
Meeting CEPMO Critical Success Factors (CSFs)	.000	.001	1.769	1.029
Achieving strategic goals and objectives	.000	.002	1.332	.789
Standardize project methodology.	.000	.000	3.553	1.339
Enhance communication.	.000	.000	2.513	1.169
Optimum use of resources.	.003	.009	-.187	.632
Enhance projects' performance.	.000	.000	2.997	1.313
Achieving customers' satisfaction.	.001	.001	2.205	.987
Adding values by CEPMOs	.011	.011	1.660	.887

a. Lilliefors Significance Correction

Table 5-13: Results of normality test for Independent and dependent variables

Eventually, Ghasemi and Zahediasl (2010) assert that if the research sample is large (more than 30) the violation of normal distribution should not be considered a main problem and researchers can proceed with the parametric procedure regardless the normality of the data.

Accordingly, we will proceed to carry out both of parametric and non-parametric tests for the data of this research.

5.3.3 Reliability of the Scale

The importance of the reliability test can be realized from the definition of the reliability itself since it means the accuracy and dependability of the measurements. Therefore, a reliability analysis was carried out through Cronbach's Alpha test to examine the scale internal consistency.

Pallant (2011, p.97) confirms that checking the scale internal consistency is very important to make sure that the items of the scale, test, measure the same concept and hence they are connected together. Subsequently, he argues that Cronbach's Alpha should be equal/more than 0.7 and it is affected by the number of items in the scale, so with a scale has lower than 10 items, the value of Cronbach's alpha is normal to be 0.5

Therefore, reliability test was carried out to examine the reliability through measuring the value of Cronbach's Alpha with the benchmark values of 0.7 as stated by Pallant (2011, p.97).

5.3.3.1 Reliability Test for Independent variables (Meeting the CSFs of CEPMO).

This test was performed and the overall reliability for the independent variables was 0.949 as shown in table 5-14 which indicates the scale has high reliability since it is very close to be one and it is more than 0.7 that means high reliability.

Reliability Statistics	
Cronbach's Alpha	N of Items
.949	30

Table 5-14: Cronbach's Alpha for Independent Variables (Meeting CSFs of CEPMOs)

Furthermore, a detailed analysis was done to examine and measure each variables of the independent variables and the result were 0.949, 0.923, 0.802, 0.923, 0.848, 0.874, and 0.887 without any deletion of any items included in any variable and all of these six values has high reliability since their values are more than 0.7 as show below in table 5-15

Variables	Questionnaire reference	Values of Cronbach's Alpha
<u>Independent Variables</u>		
Meeting Critical Success Factors (CSFs) of CEPMO	Q11 to 40 (5 items)	0.949
1-Knowing the objectives behind the establishment of the CEPMO	Q11 to Q15 (5 items)	0.923
2-Suitability of CEPMO structure with respect to organizational structure.	Q16 to Q20 (5 items)	0.802
3-Senior management commitment.	Q21 to Q25 (5 items)	0.923
4-Clarity of CEPMO charter	Q26 to Q30 (5 items)	0.848
5-Competency of CEPMO's leaders and staff.	Q31 to Q35 (5 items)	0.874
6-Meeting organizational objectives and targets	Q36 to Q40 (5 items)	0.887

Table 5-15: Cronbach's Alpha for each Independent Variable individually and the overall

5.3.3.2 Reliability Test for Dependent variables (Added Values by CEPMO).

Reliability test was done to examine and measure the Cronbach's Alpha of all the dependent variables individually and the observation was that all six variables are reliable, values are more than 0.7 except two variables. The first was variable number two, Standardize project methodology, which had value of 0.686 in the first trial of the analysis.

However, after so many trials to enhance this value, and it was observed that deletion of question 49 improved the value of Cronbach's Alpha to be 0.841 that is a reliable value. Concurrently, the second variable which had low Cronbach's Alpha value, 0.524, was the sixth variable, Achieving customers' satisfaction. But, after deletion of questions number 66 and 70 the value of Cronbach's Alpha was boosted to be 0.769 that is a reliable value and all of these values of Cronbach's Alpha are illustrated in table 5-16 including the values before and after the deletion of questions 49, 66, and 70.

Variables	First Trial		Last Trial	
	Questionnaire reference	Values of Cronbach's Alpha	Questionnaire reference	Values of Cronbach's Alpha
<u>Dependent Variables</u> Adding Values by CEPMOs	Q41 to 70 (30 items)	0.932	Deletion of Q49, 66 & 70 (27 items)	0.946
1-Achieving strategic goals and objectives	Q41 to Q45 (5 items)	0.798	Q41 to Q45 (5 items)	0.798
2-Standardize project methodology.	Q46 to Q50 (5 items)	0.686	Q46,47,48,&50 (4 items) Excluding Q49	0.841
3-Enhance communication.	Q51 to Q55 (5 items)	0.908	Q51 to Q55 (5 items)	0.908
4-Optimum use of resources	Q56 to Q60 (5 items)	0.837	Q56 to Q60 (5 items)	0.837
5-Enhance projects' performance	Q61 to Q65 (5 items)	0.857	Q61 to Q65 (5 items)	0.857
6-Achieving customers' satisfaction.	Q66 to Q70 (5 items)	0.524	Q67 to Q69 (3 items) Excluding Q66 & Q70	0.769

Table 5-16: Cronbach's Alpha for each dependent Variable individually and the overall

Furthermore, table 5-17 illustrate the overall Cronbach's Alpha value for the dependent Variables, 0.946 after deletion of these three questions, which is reliable.

Reliability Statistics	
Cronbach's Alpha	N of Items
.946	27

Table 5-17: Cronbach's Alpha for dependent Variables (Added values by CEPMOs)

It is worth to highlight that the upcoming tests were carried out based on deletion of questions number 49, 66, and 70 as described above.

5.4 Correlation Analysis

Following the reliability test, a correlation analysis was carried out to examine the nature of the relationship and correlation between independent variables and dependent variables.

Therefore, Pearson's correlation coefficient test, parametric, and Spearman's rho, non-parametric, were performed.

5.4.1 Pearson's Correlation (r) Test

The test was conducted to examine the relationships between the dependent variables and independent variables and the results are shown in table 5-19. Accordingly, it is worth to shed light on the different values of Pearson's correlation coefficient and its meaning, hence Pallant (2011, p.134) and Field (2009, p.173) confirm that the value of Pearson's correlation coefficient should lie between +1 and -1 ($-1 \leq r \leq +1$) and they assure the following values of Pearson's correlation coefficient and its meaning according to the following table 5-18

Value of Pearson's Coefficient (r)	Meaning
0	There is no relation between the variables
+1	There is strong direct relationship between variables
-1	There is strong in-direct relationship between variables
± 0.1	Weak correlation
± 0.3	Moderate correlation
± 0.5	Strong correlation

Table 5-18: Values of Pearson's correlation coefficient and its meaning.

Subsequently, the correlation test was carried out and the results of this test are shown in table 5-19

	Knowing the objectives behind the establishment of the CEPMO	Suitability of CEPMO structure with respect to organizational structure.	Senior management commitment.	Clarity of CEPMO charter.	Competency of CEPMO's leaders and staff.	Meeting organizational objectives and targets	Meeting CEPMO Critical Success Factors (CSFs)	Achieving strategic goals and objectives	Standardize project methodology.	Enhance communication.	Optimum use of resources.	Enhance projects' performance.	Achieving customers' satisfaction.	Adding Values by CEPMOs
Knowing the objectives behind the establishment of the CEPMO	1													
Suitability of CEPMO structure with respect to organizational structure.	.458**	1												
Senior management commitment.	.253**	.494**	1											
Clarity of CEPMO charter.	.404**	.424**	0.227	1										
Competency of CEPMO's leaders and staff.	.298**	.624**	.253**	.348**	1									
Meeting organizational objectives and targets	.362**	.600**	.358**	.437**	.817**	1								
Meeting (CSFs) of CEPMO	.523**	.746**	.490**	.577**	.732**	.872**	1							
Achieving strategic goals and objectives	.279**	.574**	.331**	.385**	.677**	.789**	.796**	1						
Standardize project methodology.	.400**	.432**	0.216	.499**	.494**	.552**	.591**	.502**	1					
Enhance communication.	0.221	.330**	0.162	.338**	.416**	.558**	.669**	.676**	.466**	1				
Optimum use of resources.	.420**	.705**	.583**	.468**	.631**	.665**	.768**	.652**	.573**	.408**	1			
Enhance projects' performance.	.349**	.694**	.471**	.385**	.600**	.740**	.903**	.726**	.359**	.634**	.646**	1		
Achieving customers' satisfaction.	0.207	.618**	.568**	.355**	.655**	.732**	.765**	.691**	.330**	.457**	.759**	.757**	1	
Adding Values	.435**	.712**	.451**	.500**	.726**	.836**	.921**	.862**	.659**	.748**	.822**	.844**	.810**	1

by CEPMOs	(H2)	(H3)	(H4)	(H5)	(H6)	(H7)	(H1)								
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** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 5-19: Pearson's Correlation of Independent and Dependent Variables.

Prior to analyze the above stated Pearson's coefficient values, it is worth to remind the reader about the hypotheses of this study which are shown in table 5-20

Hypothesis Number	Description of Hypotheses	Pearson's Coefficient Value (r)	Category of the relationship
Hypothesis 1 (H1)	There is a positive relationship between achieving (meeting) CSFs of CEPMO and the value added to the organization by its CEPMO.	0.921**	Strong direct relation
Hypothesis 2 (H2)	There is a direct relationship between Knowing the objectives behind the establishment of the CEPMO and the added value by the CEPMO.	0.435**	Moderate direct relation
Hypothesis 3 (H3)	There is a positive relation between suitability of the CEPMO structure and the added value by the CEPMO.	0.712**	Strong direct relation
Hypothesis 4 (H4)	There is a positive relationship between senior management support and the value added by the CEPMO.	0.451**	Moderate direct relation
Hypothesis 5 (H5)	There is a direct relationship between clarity of CEPMO charter and the added value by the CEPMO.	0.500**	Strong direct relation
Hypothesis 6 (H6)	There is a positive relation between competency of the CEPMO's leader and its staff and the value added by the CEPMO.	0.726**	Strong direct relation
Hypothesis 7 (H7)	There is a direct relationship between meeting the organizational objective and targets and the value added by the CEPMO.	0.836**	Strong direct relation

** . Correlation is significant at the 0.01 level (2-tailed).

Table 5-20: Hypotheses of the study

Through comparing the study hypotheses in table 5-20 and the outcomes of the correlation test, we can observe the followings:

- All the hypotheses of the study have significant direct relationship with each other and with the Added values by the CEPMO (dependent variable) according to the values of the Pearson's coefficient in the last row of table 5-19 and table 5-20
- According to the above results, the higher value of the Pearson's coefficient is 0.923 which belongs to the strong direct relationship between independent variable and dependent variable.
- Correlation coefficient of meeting the organizational objectives and target, Competency of CEPMO's leaders and staff, Suitability of CEPMO structure with respect to organizational structure, and finally clarity of CEPMO charter have Pearson's coefficient values 0.836, 0.726, 0.712 and 0.500 respectively which represented strong positive relationship since $r > 0.5$.
- On the other hand, the remaining two variables which know the objectives behind the establishment of the CEPMO and senior management commitment have value of Pearson's coefficient 0.435 and 0.451 respectively which also showed moderate positive relationship since the value of (r) is $0.5 > r > 0.4$

5.4.2 Spearman's rho Correlation Test

Spearman's rho test was conducted to compare its results with the results that were obtained from Pearson's test and the results are shown in the table 5-21 below. According to table 5-21 the results of Spearman's correlation tests showed the same relationships (as it was revealed from Pearson's test) between the different variables, and the highest value was also between the independent variable and dependent variable as it was observed from Pearson's correlation test.

	Knowing the objectives behind the establishment of the CEPMO	Suitability of CEPMO structure with respect to organizational structure.	Senior management commitment.	Clarity of CEPMO charter.	Competency of CEPMO's leaders and staff.	Meeting organizational objectives and targets	Meeting Critical Success Factors (CSFs) of CEPMO	Achieving strategic goals and objectives	Standardize project methodology.	Enhance communication.	Optimum use of resources.	Enhance projects' performance.	Achieving customers' satisfaction.	Adding Values by CEPMOs
Knowing the objectives	1.000													

behind the establishment of the CEPMO														
Suitability of CEPMO structure with respect to organizational structure.	.448**	1.000												
Senior management commitment.	.255*	.433**	1.000											
Clarity of CEPMO charter.	.376**	.437**	0.185	1.000										
Competency of CEPMO's leaders and staff.	.271*	.590**	0.187	.338**	1.000									
Meeting organizational objectives and targets	.398**	.544**	0.204	.444**	.808**	1.000								
Meeting Critical Success Factors (CSFs) of CEPMO	.565**	.729**	.397**	.628**	.669**	.795**	1							
Achieving strategic goals and objectives	.310*	.484**	.267*	.386**	.625**	.664**	.692**	1						
Standardize project methodology.	.331**	.334**	0.213	.443**	.410**	.455**	.477**	.463**	1					
Enhance communication.	.274*	.287*	0.139	.295*	.369**	.471**	.551**	.706**	.459**	1				
Optimum use of resources.	.409**	.654**	.538**	.468**	.574**	.574**	.711**	.563**	.476**	.425**	1			
Enhance projects' performance.	.405**	.704**	.336**	.454**	.536**	.618**	.865**	.664**	.257**	.510**	.631**	1.		
Achieving customers' satisfaction.	0.206	.576**	.417**	.356**	.665**	.669**	.644**	.662**	.365**	.431**	.761**	.602**	1	
Adding Values by CEPMOs	.462** (H2)	.654** (H3)	.374** (H4)	.474** (H5)	.705** (H6)	.748** (H7)	.832** (H1)	.812**	.600**	.708**	.823**	.744**	.810**	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 5-21: Spearman's rho correlation of independent and dependent

Variables

5.4.3 Pearson's vs. Spearman Coefficients

Referring to Table 5-22 shows that the highest value of the correlation coefficients is between the independent variable (meeting the CSFs of PMO) and the dependent variable (adding values by PMO). Meanwhile, the classifications of the relationships between variables (strong, moderate, or weak) are the same in Pearson's and Spearman's correlation coefficients which supports the research results and its reliability.

	Knowing the objectives behind the establishment of the CEPMO	Suitability of CEPMO structure with respect to organizational structure.	Senior management commitment.	Clarity of CEPMO charter.	Competency of CEPMO's leaders and staff.	Meeting organizational objectives and targets	Meeting Critical Success Factors (CSFs) of CEPMO	Achieving strategic goals and objectives	Standardize project methodology.	Enhance communication.	Optimum use of resources.	Enhance projects' performance.	Achieving customers' satisfaction.	Adding Values by CEPMOs
Adding Values by CEPMOs														
Pearson's Coefficient	.435**	.712**	.451**	.500**	.726**	.836**	.921**	.862**	.659**	.748**	.822**	.844**	.810**	1
Spearman's Coefficient	.462** (H2)	.654** (H3)	.374** (H4)	.474** (H5)	.705** (H6)	.748** (H7)	.832** (H1)	.812**	.600**	.708**	.823**	.744**	.810**	1

Table 5-22: Pearson's vs. Spearman's Coefficients

5.5 Regression Analysis

After the completion of correlation test, regression analysis should be used to anticipate (predict) the value of any variable according to the value of another different variable, so the independent variable is used to model or predict the values of the dependent variable.

Therefore, linear regression analysis was carried for the independent variable (meeting the CSFs of CEPMOs) and the dependent variable (Adding values by CEPMOs) and the results as the followings:

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.921 ^a	.848	.845	.204

a. Predictors: (Constant), Meeting PMO Critical Success Factors (CSFs)

Table 5-23: Model Summary

The first table is Table 5-23 (model summary) shows that the (R) value is 0.921 which was obtained before from the correlation test and it indicates strong direct relationship; please refer to table 5-20. Meanwhile, the coefficient of determination (R^2) which shows how much of the dependent variable (added values by CEPMOs) can be explained by the independent variable (meeting the CSFs of CEPMO) has high value of 84.8%. Therefore, 84.8% of the dependent variable can be explained by the independent variable that is very large.

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	13.822	1	13.822	333.503	.000 ^b
Residual	2.487	60	.041		
Total	16.309	61			

a. Dependent Variable: Adding Values by PMOs

b. Predictors: (Constant), Meeting PMO Critical Success Factors (CSFs)

Table 5-24: ANOVA^a

The second table from this test is the ANOVA which stands for analysis-of-variance; this table represents how the regression model can predict the dependent variables significantly, on other words carrying out F test is used to check the significance of the model and this can be observed through checking the **Sig** value if it is under 0.05, actually it is 0.000, it means that this model can predict the value of the dependent variable.

Moreover, the probability (p) of the F statistic (333.503) for the overall regression relationship is < 0.001 that is less than the level of significance 0.05 Therefore, there is a statistically significant relationship between the set of independent variables and the dependent variables.

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.069	.109		.637	.527
Meeting PMO Critical Success Factors (CSFs)	.997	.055	.921	18.262	.000

a. Dependent Variable: Adding Values by PMOs

Table 5-25: Coefficients^a

The last table is coefficients table 5-25 which indicates if the variables are significant related or not and both the direction and strength between their relationship can be realized. These goals can be obtained by looking at the non-standardized coefficients column and its B (regression coefficient) column. Since, both values of B are positive, it means that the relation is positive relationship according to hypothesis H1 and both coefficient values are the slope of the regression line that is 0.997 while the second coefficient is the intercept of the regression line is 0.069 that shows the value of the dependent variable if the independent variable is equal to zero, so the entire relationship between the independent and dependent variables can be written through the regression equation as the followings:

$$\text{Added value by CEPMO} = 0.997 * (\text{Meeting CSFs of CEPMO}) + 0.069$$

Meanwhile, the significance of this relationship can be observed through the values of F, B, and p which are $F=333.503$, $B=0.921$ and $p < 0.001$

Moreover, it is worth to highlight that the value of the significance (0.527) of the constant (highlighted in blue background in table 5-25) in the regression equation informs that the value 0.069 is not significantly different to zero since it is very close to be zero and this significance 0.527 value has no more meaning that can affect the findings of the study.

5.5.1 Regression between Independent Variables and overall Dependent Variable.

It is beneficial to understand the meaning and the importance of the coefficient of determination (R^2) which shows how much (%) of dependent variables can be explained by the independent variable. So, it is a gauge to know how sound the regression line fit and represent the data and its values can be explained as $0 \leq R^2 \leq 1$

Center Science Research Lab, American University (2010) provides information about SPSS regression test which highlighted that the value of the coefficient of determination (R^2) can be explained and understood according to the following table 5-26:

Value of Coefficient of determination (R^2)	Meaning
$R^2 < 0.2$	Weak
$0.4 > R^2 > 0.2$	Medium
$R^2 > 0.4$	Strong

Table 5-26: Values of coefficient of determination (R^2)

Accordingly, linear regression was carried out to examine the correlation between variables and to test the hypotheses of the study to confirm the validity of the correlation analysis that was conducted in section 5.4. Accordingly, the summarized results of this test are shown in table 5-27

H No.	Independent Variables	Dependent Variable	R	R^2	Adjusted R square	F	Sig. (p)	t	Sig. (p)	Unstandardized coefficients		Standardized coefficients
										B	SE	Beta
H1	Constant	Adding Values by CEPMOs	.921	.848	.845 ↑	333.503	.000	.637	.527	.069	.109	
	Meeting Critical Success Factors (CSFs) of CEPMO							18.262	.000	.997	.055	.921
H2	Constant	Adding Values by CEPMOs	.435	.190	.176 ↓	14.033	.000	9.790	.000	1.476	.151	
	Knowing the objectives behind the establish of the CEPMO							3.746	.000	.319	.085	.435

H3	Constant	Adding Values by CEPMOs	.712	.506	.498	61.572	.000	9.257	.000	1.119	.121	
	Suitability of CEPMO structure with respect to organizational structure.							7.847	.000	.402	.051	.712
H4	Constant	Adding Values by CEPMOs	.451	.204	.190	15.344	.000	9.044	.000	1.424	.157	
	Commitment of Senior management							3.917	.000	.303	.077	.451
H5	Constant	Adding Values by CEPMOs	.500	.250	.238	20.006	.000	8.916	.000	1.362	.153	
	Clarity of CEPMO charter							4.473	.000	.336	.075	.500
H6	Constant	Adding Values by CEPMOs	.726	.527	.519	66.727	.000	8.606	.000	1.060	.123	
	Competency of CEPMO's leaders and staff.							8.169	.000	.417	.051	.726
H7	Constant	Adding Values by CEPMOs	.836	.699	.694	139.484	.000	5.430	.000	.649	.120	
	Meeting org. objectives and targets							11.81	.000	.669	.057	.836

Table 5-27: Linear Regression results for testing of the study hypotheses

Legend: Strong R^2 Moderate R^2 Weak R^2

↑ The highest value of (R^2) within the model.

↓ The lowest value of (R^2) within the model.

Significance values of F and T test

The main findings of table 5-27 are as the following:

- (I) The significance level for the slope is 0.000 ($p < 0.001$) for all variables that means the null hypothesis is rejected.
- (II) The independent variable (meeting the CSFs of CEPMOs) explains 84.5% of the variance in the dependent variable (Added value by CEPMOs) which is large percentage. Concurrently, the relationship is significant since the value of F and B are 333.503 and 0.921 respectively, while $P < 0.001$
- (III) The lowest values of R^2 are for H2 (Knowing the objectives behind the establish of the CEPMO) and H4 (Commitment of Senior management) which are 0.176 and 0.190 that show weak values of coefficient of determination, while they have moderate direct relationship since R values are 0.435 and 0.451 respectively.

- (IV) All the remaining relationships for H3, H6, and H7 have high value of coefficient of determination 0.498, 0.519, and 0.694 and strong direct relationships.

Furthermore, a more detailed regression test has been done for independent variables against each of the dependent variables and the results are shown in the following table 5-28

Independent Variables	R	R Square	Adjusted R Square	Std. Error of the Estimate	Individual Dependent Variables
Knowing the objectives behind the establishment of the CEPMO	.279 ^a	.078	.062 ↓	.529	Achieving strategic goals and objectives
Suitability of CEPMO structure with respect to organizational structure.	.574 ^a	.330	.318	.451	
Senior management commitment.	.331 ^a	.109	.094	.520	
Clarity of CEPMO charter	.385 ^a	.148	.134	.508	
Competency of CEPMO's leaders and staff.	.677 ^a	.458	.449	.405	
Meeting organizational objectives and targets	.789 ^a	.622	.616	.338	
Meeting CEPMO Critical Success Factors (CSFs)	.796 ^a	.634	.628 ↑	.333	
Knowing the objectives behind the establishment of the CEPMO	.400 ^a	.160	.146	.555	Standardize project methodology.
Suitability of CEPMO structure with respect to organizational structure.	.432 ^a	.187	.173	.546	
Senior management commitment.	.216 ^a	.047	.031 ↓	.591	
Clarity of CEPMO charter	.499 ^a	.249	.237	.524	
Competency of CEPMO's leaders and staff.	.494 ^a	.244	.231	.526	
Meeting organizational objectives and targets	.552 ^a	.304	.293	.505	
Meeting CEPMO Critical Success Factors (CSFs)	.591 ^a	.349	.338 ↑	.488	
Knowing the objectives behind the establishment of the CEPMO	.221 ^a	.049	.033	.620	Enhance communication.
Suitability of CEPMO structure with respect to organizational structure.	.330 ^a	.109	.094	.600	
Senior management commitment.	.162 ^a	.026	.010 ↓	.627	
Clarity of CEPMO charter	.338 ^a	.114	.099	.598	
Competency of CEPMO's leaders and staff.	.416 ^a	.173	.159	.578	
Meeting organizational objectives and targets	.558 ^a	.312	.300	.527	
Meeting CEPMO Critical Success Factors (CSFs)	.669 ^a	.448	.439 ↑	.472	

Knowing the objectives behind the establishment of the CEPMO	.420 ^a	.176	.163 ↓	.640	Optimum use of resources.
Suitability of CEPMO structure with respect to organizational structure.	.705 ^a	.498	.489	.499	
Senior management commitment.	.583 ^a	.340	.329	.572	
Clarity of CEPMO charter	.468 ^a	.219	.206	.623	
Competency of CEPMO's leaders and staff.	.631 ^a	.398	.388	.547	
Meeting organizational objectives and targets	.665 ^a	.442	.433	.526	
Meeting CEPMO Critical Success Factors (CSFs)	.768 ^a	.590	.583 ↑	.451	
Knowing the objectives behind the establishment of the CEPMO	.349 ^a	.122	.107 ↓	.609	Enhance projects' performance.
Suitability of CEPMO structure with respect to organizational structure.	.694 ^a	.482	.473	.468	
Senior management commitment.	.471 ^a	.222	.209	.573	
Clarity of CEPMO charter	.385 ^a	.148	.134	.600	
Competency of CEPMO's leaders and staff.	.600 ^a	.360	.349	.520	
Meeting organizational objectives and targets	.740 ^a	.547	.540	.437	
Meeting CEPMO Critical Success Factors (CSFs)	.903 ^a	.815	.812 ↑	.280	
Knowing the objectives behind the establishment of the CEPMO	.207 ^a	.043	.027 ↓	.688	Achieving customers' satisfaction.
Suitability of CEPMO structure with respect to organizational structure.	.618 ^a	.382	.372	.553	
Senior management commitment.	.568 ^a	.323	.312	.579	
Clarity of CEPMO charter	.355 ^a	.126	.111	.657	
Competency of CEPMO's leaders and staff.	.655 ^a	.430	.420	.531	
Meeting organizational objectives and targets	.732 ^a	.536	.528	.479	
Meeting CEPMO Critical Success Factors (CSFs)	.765 ^a	.586	.579 ↑	.453	

Table 5-28: Linear Regression results of the independent variables against each of the dependent variables.

Legend: Strong R^2 Moderate R^2 Weak R^2

↑ The highest value of (R^2) within the model.

↓ The lowest value of (R^2) within the model.

The main findings of the above table 5-28 are according to the followings:

- This table shows six model summaries between the six independent variables (Meeting the CSFs of CEPMOs), and each variable of the dependent variables, six numbers of variables, which is the adding values by CEPMOs.
- Each value of adjusted R square in the table has colored background according to its strength which described above in table 5-26. Meanwhile, the highest value of

adjusted R square has a symbol (\uparrow), while the lowest value has a symbol (\downarrow) that enables the reader to identify quickly the highest and lowest value of adjusted R^2 within each model summary.

- In all six models included in this table, it clearly shown that the highest value of R^2 is always between Meeting the CSFs of CEPMO (independent variable) and all of the dependent variables that support hypothesis H1 as it was discussed in the correlation and linear regression tests. Therefore, the independent variable (meeting the CSFs of CEPMO) explains the most (81.2%) in enhance the project performance; while it explains the least (33.8%) in standardize project methodology.
- All of dependent variables have three high values of R^2 , except standardize project methodology which has no strong value of R^2 and enhance communication which has only one strong value of R^2
- Meeting organizational objectives and targets is the most independent variable that can explain the dependent variables since it has strong R^2 values (four values out of six) with all the dependent variables except two variables which are standardize project methodology and enhance communication. Moreover, this observation was revealed during the correlation test since Meeting organizational objectives and targets has high correlation values with each variables of added values of PMOs according to tables 5-19 and 5-20.
- 43.9% of the dependent variable Enhance communication can be explained by the overall independent variable that is large percentage, but five out of six R^2 values are weak as illustrated in table 5-26.

Chapter 6 Discussion

6.1 Introduction

The importance of PMOs is realized recently by many organizations to maximize the value that can be added by the PMOs to improve the organizations' performance, but some of higher management who have no project management skills and background do not realize this fact since they think PMOs add cost and do not add values to their organization. Indeed, many organizations do not believe that meeting the CSFs of the CEPMOs is a crucial factor to ensure adding values to the organization by their CEPMOs.

Accordingly, this research paper concerns to shade a light on the values that can be added to the organizations through meeting the CSFs of the CEPMOs itself and not the CSFs of project management that is not a part of this study. Hence, the scope of this research is to identify and meet the main CSFs of the CEPMOs that were observed through last research and the main values that can be added to the organizations by their CEPMOs.

Furthermore, the main aim of the present study is to examine the different relationships between meeting the key CSFs of CEPMOs and the added values to the organization by those CEPMOs.

Prior studies have noted the importance of PMOs and its added values to the organizations as stated in the literature review, chapter two, by (Hobbs and Aubry (2008); Baker (2007); Desouza and Evaristo (2006); Nancy et al. (2007); Kerzner (2003); Dai & Wells, 2004; Hill, 2004; Hurt & Thomas, 2009). Meanwhile, a strong relationship between meeting the CSFs of CEPMOs and its added values to the organization has been reported in the literature review based on research by Thi and Swierczwk (2010) and Andersen et al. (2006).

In this chapter the results and finding of the questionnaire of this study, chapter five, are compared with the hypotheses to know whether they support and confirm each other or not, meanwhile results and findings are compared with the previous research's outcomes to realize the implications on the project management discipline.

6.2 The Results of the Questionnaire

It is worth to highlight that all participants were selected carefully based on several factors such varieties of their occupations' level, different qualifications but at least bachelor degree, years of experience, working in/with PMOs, role in the project while there was no discrimination between men and women or nationalities, but the only references were the stated significant factors. Hence, the results showed that the percentage of the female participating in the survey is 32.3% which reflect the social and business cultures in Arab countries to hire mostly men for vacant vacancies.

Moreover, it was insisted to encourage higher management to participate in such survey to gain their view and recommendation, so 32.3% of the participants was Department managers, 30.6% was upper management directors, while only 6.5% was Executive level (CEO) since this category has no more time for such discussion.

The results of the normality test that was done to examine the normal distribution of the data, and as it was expected, shows that the data are not normally distributed, please refer to section 5.3.2 in chapter five since the sample of this study is large (sixty two participants) which supports the previous research outcome by Ghasemi and Zahhediasl (2010) since he confirmed that the data for large sample (more than thirty) is not normally distributed.

Same while, The results of reliability test that was carried out through Cronbach's Alpha test to examine the scale internal consistency shows that the overall reliability for the independent variables was 0.949 which indicates that the scale has very high reliability since it is more than 0.7, which is the minimum value of reliable scale (Pallant2006), and it is very close to be one. Same while, the least value of the Cronbach's Alpha for individual independent variables was 0.802 that related to variable number six (Suitability of CEPMO structure with respect to organizational structure) that is still classified as high reliability scale, please refer to table 5-15.

Contrary to the expectation, while examining the reliability test for dependent variables, the value of Cronbach's Alpha for variable number two (standardize project methodology) and six (Achieving customers' satisfaction) were 0.686 and 0.524 respectively that means these two scales are not reliable since the values are less than 0.7. These unexpected values may be according to the participants' perspective about the responsibilities and function of the CEPMOs itself since some of participants think standardize project management should be set by the steering committee, while customers' satisfaction is the responsibility of customer service department.

Accordingly, much iteration were done to delete some of the survey questions related to these two variables to improve Cronbach's Alpha values and that was achieved since these two values were improved to be 0.841 and 0.769 which are reliable values. Concurrently, the Cronbach's Alpha values for the remaining four dependent variables were all reliable. Moreover, these deletions of some questions increase the overall reliability of the overall dependent variables to be 0.949 instead of 0.932 before the deletion.

Therefore, the correlation tests were done to explore the nature of the relationships between the different variables using both of Pearson's coefficient and Spearman's rho coefficients (the normality test of data showed that the data are not normally distributed) to check if the results are the same or not since Ghasemibuted and Zahhediasl (2010) confirm that the violation of normal distribution should not be considered a problem and researchers can proceed with the parametric procedure regardless the normality of the data and the results and findings of this study have confirmed his observation, and these results are elaborated according to the following table 6-1

	Knowing the objectives behind the establishment of the CEPMO	Suitability of CEPMO structure with respect to organizational structure.	Senior management commitment.	Clarity of CEPMO charter.	Competency of CEPMO's leaders and staff.	Meeting organizational objectives and targets	Meeting Critical Success Factors (CSFs) of CEPMO	Achieving strategic goals and objectives	Standardize project methodology.	Enhance communication.	Optimum use of resources.	Enhance projects' performance.	Achieving customers' satisfaction.	Adding Values by CEPMOs
Adding Values by CEPMOs														
Pearson's Coefficient	.435**	.712**	.451**	.500**	.726**	.836**	.921**	.862**	.659**	.748**	.822**	.844**	.810**	1
Spearman's Coefficient	.462** (H2)	.654** (H3)	.374** (H4)	.474** (H5)	.705** (H6)	.748** (H7)	.832** (H1)	.812**	.600**	.708**	.823**	.744**	.810**	1

Table 6-1: Pearson's vs. Spearman's Coefficients

Furthermore, it is worth to conclude the study hypotheses and their brief results and meaning of correlation and regression analysis in the following table 6-2 prior to the detailed discussion of the results of the current study.

Hypothesis Number	Description	Correlation Analysis		Regression Analysis	
		Pearson's Coefficient t (r)	Meaning	Coefficient of Determination (R ²)	Meaning
(H1)	There is a positive relationship between achieving (meeting) CSFs of CEPMO and the value added to the organization by its CEPMO	0.921**	Strong direct relation	0.845	Strong
(H2)	There is a direct relationship between Knowing the objectives behind the establishment of the PMO and the added value by the CEPMO.	0.435**	Moderate direct relation	0.176	Weak
(H3)	There is a positive relation between suitability of the CEPMO structure and the added value by the CEPMO.	0.712**	Strong direct relation	0.498	Strong

(H4)	There is a positive relationship between senior management support and the value added by the CEPMO.	0.451**	Moderate direct relation	0.190	Weak
(H5)	There is a direct relationship between clarity of PMO charter and the added value by the PMO.	0.5**	Strong direct relation	0.238	Moderate
(H6)	There is a positive relation between competency of the CEPMO's leader and its staff and the value added by the CEPMO.	0.726**	Strong direct relation	0.519	Strong
(H7)	There is a direct relationship between meeting the organizational objective and targets and the value added by the CEPMO.	0.836**	Strong direct relation	0.694	Strong

Table 6-2: Study hypotheses and brief results and meaning of correlation and regression analysis

6.2.1 Relationship between Meeting CSFs of PMOs and Added value by PMOs

The most interesting finding of this study was that existence of a strong direct relationship between meeting (achieving) the CSFs of CEPMOs and the value that can be added by the CEPMOs to their organization since the correlation analysis shows the value of Pearson's coefficient (r) is 0.921 and Spearman's rho coefficient is 0.832 which comply with the previous research in the same area of concern as confirmed by (Thi and Swierczwk 2010; and Andersen et al. 2006).

Moreover, the regression analysis (value of the coefficient of determination R^2) equal to 0.845 which means that 84.5% of the values added by PMOs (dependent variable) can be explained by meeting the CSFs of PMOs (independent variable) which is a very large percentage, while the significance of this relationship can be observed through the values

of F , β , and p which are $F=333.503$, $\beta=0.921$ and $p<0.001$, please refer to chapter five section 5.5

Indeed, this findings is one of the most important findings of this study since it clearly showed that if the organizations meet the CSFs of the CEPMOs successfully, the value that can be added by CEPMOs to their organization can be significantly boosted that supports the first hypothesis (H1).

However, there are 15.5% of the dependent variable (added value by CEPMOs) cannot be explained by the independent variable (meeting the CSFs of CEPMOs) and this percentage was described by Andersen et al. (2007) and Crawford (2011) since it is related to some factors such as projects' size that are managed by the CEPMOs, prioritize the projects, and involvement of the financial division, so these variables that impact the added values by CEPMOs can be an interesting topic for further research effort.

6.2.2 Effects of individual independent variables (meeting CSFs of CEPMOs) on the dependent variables (values added by CEPMOs).

To explore the existence and significance of the relationship between each of the independent variables (meeting the CSFs of the CEPMOs) and the dependent variable (value added by CEPMOs) correlation and regression analysis were performed and their results and meanings are concluded in the above table 6-2.

The above stated results show that all the relationships between variables are strong direct relationship ($r > 0.5$) which supports previous research, except H2 and H4 which still have moderate direct relationships ($0.3 < r < 0.5$) which is reflect the participants' consideration that knowing the objectives behind the establishment of the PMO is not a crucial factor that affects the values that can be added by CEPMOs and this is contrary to what confirmed by Evaristo (2006). While, participants consider that senior management support does not much affect the added values by CEPMOs since CEPMOs are independent entities and their values should not be dependent on external factors which are

in contrast of the earlier findings by Andersen et al. (2007) and Zwikael (2008) as stated in the literature review chapter two.

Therefore, the current study found that the added value by CEPMOs can be enhanced by achieving, meeting, the CSFs of the CEPMOs and its individual variables as confirmed by Thi and Swierczwk (2010) and Andersen et al. (2006).

Accordingly, both of correlation and linear regression analysis confirmed the following findings:

- (I) Meeting organizational objectives and targets has the highest value of R^2 (0.694) which indicated that the value that can be added by CEPMOs is strongly affected by meeting the organizational objectives and targets, hence senior management can realize the value of the CEPMO if the CEPMO successes to achieve the tangible organizational objectives and this complies with Thi and Swierczwk (2010) confirmation regarding the relationship between meeting the organizational objectives and the added value by CEPMO.

Therefore, it is a significant point for any organization to encourage their staff to know well the organizational objectives/targets and encourage staff to achieve them through well set procedures that may include some rewarding and prizes policy. These organizational objectives may include undertaking the different projects within the approved budget, schedule, and quality to boost the organization's reputation in the business market that will lead to improve the organization's revenues and benefits in the long-term.

- (II) The second important individual independent variable (according to table 5-27) is the competency of PMOs' leader and staff which has R^2 value 0.519 that affect the added values by CEPMO. Any CEPMO's leader can easily lead his entity, PMO, to success or failure according to his competency and project management skills that are not only affect the CEPMO, but according to the results of this study, the

entire organizational performance and same observation were confirmed by Hurt and Thomas (2009).

Accordingly, it is so important to select the appropriate CEPMO's leader and PMOs' staff to ensure that the performance of the CEPMO will support and boost the organization strategic goals and performance.

Furthermore, organization needs to provide, according to CEPMO recommendation for each individual, CEPMO's leader and staff, the essential training courses to enhance their management and communication skills and this was asserted by Hill (2004) in the literature review chapter two.

Hence, it is a crucial factor that organization needs to have an explicit career ladder promotion and obvious performance assessment procedure to measure and assess CEPMO's leader and staff's performances and compare it with the pre-defined goals and performance.

- (III) The third significant individual independent variable is the suitability of CEPMO structure with respect to the organizational structure which has R^2 value 0.498 that affect significantly the added values by CEPMO. This study shows this relationship between the two variables through regression and correlation analysis since R value is 0.712 that confirm strong direct relationship between these two variables.

Moreover, the findings of this study are consistent with those of Hobbs and Aubry (2008) who confirmed that there is no standard PMO structure that can be established for all types of organizations since PMO structure is different if the company is private or public.

So, the structure of CEPMO should be established according to the organizational structure, nature, needs and requirements.

- (IV) Individual variable clarity of the CEPMO charter has R^2 value 0.238 which indicates that there is a moderate effect of clarity of the CEPMO charter on the added value of the CEPMO which does not support the previous research by Desouza and Evaristo (2006) as it was highlighted in the literature review chapter of the current study.

However, there is still positive direct relationship between the clarity of CEPMO charter and the added values by CEPMO since the R value is 0.5, while the R^2 value shows only how much (23.8%) of the dependent variable (Added value by CEPMO) can be explained by the independent variable (clarity of the CEPMO charter) which is 0.238 that is classified as a moderate value.

- (V) The individual variable commitment of senior management has a moderate relationship with the dependent variable (added values by PMO) since the value of R is 0.451, while the value of R^2 is 0.190 that is classified as weak percentage (19%) to explain the dependent variable. Although this finding differs from research that was done by (Zwikael 2008), commitment of higher management is an important variables that can affect the value added by the CEPMO because without the higher management commitment, CEPMO cannot be function properly as desired by the organization since the relation between both variables is still in the upper level of the moderate relationship.

- (VI) The last individual independent variable that is knowing the objectives behind the establishment of the CEPMO has a moderate relationship with the dependent variable (added values by CEPMO) since the value of R is 0.435, while the value of R^2 is 0.176 that is classified as weak percentage (17.6%) to explain the dependent variable.

Therefore, this study has been unable to demonstrate that this individual independent variable can explain the variance of the independent variable since the

R2 is classified as a weak percentage which does not comply with what Evaristo (2006) confirmed.

However, the importance of this individual independent variable (knowing the objectives behind the establishments of the CEPMO) should not be neglected since there is a moderate relationship with the dependent variable (added values by CEPMO) as described above.

6.2.3 Relationships between Individual Meeting the CSFs of CEPMOs Variables and the Added Values by the CEPMOs Variables.

The results and findings of the current study proved that the values that are added by CEPMO can be boosted by meeting the critical success factors (CSFs) of the CEPMO itself. It is interested to note that all six independent variables were examined to explore the strength and direction of the relationships with six dependent variables to reveal whether these variables contribute and enhance the added values by the CEPMOs or not.

Accordingly, regression analysis was performed and the findings were summarized in table 5-28 and it showed the following:

- (I) The results of the regression analysis have confirmed the results of the correlation analysis since the highest value of R^2 is between the overall independent variable (meeting the CSFs of CEPMOs) and overall the dependent variable (added values by CEPMOs) that prove the first hypothesis (H1) as confirmed by (Thi and Swierczwk 2010; and Andersen et al. 2006).
- (II) Enhance the project performance is the best dependent variable that was explained by the independent variables (meeting the CSFs of CEPMOs) since R^2 is 0.812 according to table 5-28. These results complied with the correlation analysis since this variable (Enhance the project performance) has the best value of R (0.903) values among the six dependent variables as shown in table 5-28. Therefore, the findings shows the significance of this variable within the added values by CEPMOs since many organizations normally confront huge challenges to enhance

the project performance to minimize their cost and maximize their the benefits and revenues.

Furthermore, enhance the project performance increases the added values by CEPMO that will let senior management to realize the weight and importance of establishment of an effective CEPMO at their organizations and this can support the success of the CEPMO itself by achieving the commitment of senior management.

Concurrently, it is noticed that meeting the organizational objectives and targets explains the most variances (54%) among the variables of the independent variables (meeting the CSFs of CEPMOs) in enhance the project performance.

Accordingly, this result identifies the importance of achieving the organizational objectives and targets to ensure adding values by the CEPMO.

(III) Suitability of CEPMO structure with respect to organizational structure and competency of CEPMO's leader and staff explained noticeable amount of variance in the dependent variables (values added by CEPMOs) according to table 5-28 and these results are complied with studies that were done by Hurt and Thomas (2009) and Hill (2004).

(IV) It is noted that 57.9% of the dependent variable achieving customers' satisfaction can be explained by the overall independent variable, while it has two moderate values, two weak values, and two strong values of R^2 and it is worth to highlight that these results were obtained after deletion of some questionnaire questions that are related to this variable.

(V) It was obtained that 33.8% of the dependent variable standardize project methodology was explained by the overall independent variable that is a moderate percentage, despite some questionnaire questions were deleted that related to this dependent variable.

(VI) The independent variable (meeting the CSFs of CEPMOs) explains the most (81.2%) in enhance the project performance, but it explains the least (33.8%) in standardize project methodology. These results confirmed the importance of achieving the CSFs of the CEPMOs that lead to enhance the performance of the projects that improve the overall organizational performance, while 33.4% in standardize project methodology is still within the moderate scale to be explained by the independent variables.

(VII) It is worth to highlight that 43.9% of the dependent variable Enhance communication can be explained by the overall independent variables that is a large percentage, but four out of six R^2 values are weak as illustrated in table 5-28.

Hence, further study should be carried out to study this observation to obtain the appropriate independent variables that can explain the dependent variable.

6.3 Limitations of Data

Any data should have limitations since there is no data are valid for all cases and different times. The limitations of the current study were mentioned in section 4-5 in chapter four, and these limitations should be addressed in the future studies. Accordingly, in addition to that limitations, the current research have some more limitations that are related to the collected data and specified results of the current study according to the followings:

- The data were collected through survey questionnaire that was forwarded to pre-defined participants based on specified criteria as described before, but the perspective of the participants is not discussed with them in person and there is no way to reveal their opinions, and only expectations has been used to reveal their opinions about each of their answers and they may answer the questions superficially that badly affect the study results and findings.

- It was assumed that the returned questionnaires were filled up by the people who received the questionnaire, but this is not always correct especially when the participant occupies senior management level such as CEO and this may affect the study results and findings.
- As discussed above in the reliability test, the value of Cronbach's Alpha for dependent variable number two (standardize project methodology) was 0.686 that means these the scale is not reliable since the value is less than 0.7 (Pallant2006).

However, after deletion of Q49 the value became 0.841. While, the value of Cronbach's Alpha for dependent variable number six (Achieving customers' satisfaction) was 0.524 and it was enhanced to be 0.769 after deletion of Q66 and Q70.

Accordingly, these two scales became reliable after that deletion of these three questions and this should be investigated through more study to know the real reliability of these two dependent variables.

- As it was expected the distribution of data was not normal according to the large number of the sample (sixty two numbers) as confirmed by Ghasemi and Zahhedi (2010). Therefore, this study included parametric and non-parametric analysis to ensure that there is no effect of having not normally distributed data.
- During carrying out the regression analysis it was observed that 15.5% of the dependent variable (added value by CEPMOs) cannot be explained by the independent variable (meeting the CSFs of CEPMOs) and this percentage was described by Andersen et al. (2007) and Crawford (2011) since it is related to some factors such as projects' size that are managed by the CEPMOs, prioritize the projects, and involvement of the financial division. Subsequently, more studies on these factors to be carried out before the association between CSFs of CEPMOs and added values by CEPMOs is more evidently understood.

Therefore, the findings and results of the current study has important implications for understanding the nature of the relationship between meeting the CSFs of the CEPMO and its added valued to the organization., while further studies are recommended on this topic according to the above stated limitations.

Chapter 7 Conclusions and Recommendations

7.1 Introduction

This essay has argued that meeting the critical success factor (CSFs) of the CEPMOs can enhance and increase the values that can be added by the CEPMOs to the organizations. Therefore, this dissertation investigated the relationship between meeting the CSFs of CEPMOs and its added values to the organization. Furthermore, it was decided to investigate deeply to know the nature of the relationships between the different variables of meeting the CSFs of CEPMOs and the variance variables of the values that can be added by the CEPMOs to the organizations.

Moreover, the aim of this research paper is to identify the critical success factors (CSFs) that affect the added values by CEPMO and investigate the relationship between the achieving those CSFs of CEPMOs and its added value to the organizations within UAE to enable it to continuously grow and expand.

Concurrently, the objectives of the current research were as the followings:

- Critical analysis and evaluation of literature review (chapter two) in term of definition, characteristics, roles and responsibilities, models, benefits, and risks (threats) of the PMOs.
- Critically identify and analyze of CSFs of CEPMO, and methods to measure the success and performance of the projects.
- Reveal and evaluate the nature of the relation between achieving the CSFs of the CEPMO and its added value.
- Analyze the collected data to find solutions for organizations in UAE to gain more values through achieving the CSFs of their CEPMOs.

Accordingly, the literature review was developed to address these objectives and to examine the hypotheses of this research. Hence, these hypotheses were investigated through a survey questionnaire that was forwarded to different people, who were selected based on specified criteria, at different organizations to explore and investigate these hypotheses. It is worth to highlight that the survey questions were developed according to

different theories that were mentioned in the literature review of the most recent journal articles and reference books.

This chapter has two aims; the first is to summarize the results and findings and the main areas of the current study, while the second aim is to give the most appropriate recommendations to the contracting organizations in UAE to gain the utmost values through establishment of effective CEPMOs to enhance the entire organizational performance and efficiency.

Section 7.2 presents the study conclusions according to the summary of the main results and findings of this research that were observed through the study analysis and literature review.

Section 7.3 provides the recommendations of this study that can be used as guidance for any organization that aims to enhance the effectiveness of its existing CEPMO or establish a new CEPMO and gain the desired values of its PMO. Furthermore, section 7.4 provides recommendations for further research.

Section 7.5 presents the contribution of this study compared with the previous research on the same topic.

7.2 Conclusions

According to the hypotheses of this study that were posed in chapter three and results and findings, chapter five, it is now possible to confirm that there is a strong direct relation between meeting, achieving, the CSFs of the CEPMOs and the values that can be added to the organization by CEPMOs.

Therefore, these findings suggest that in general if the CSFs are achieved, the added values by CEPMOs can be increased that enhance the overall organizational performance and this is the most obvious, significant, finding to emerge from this study. The second major

finding was that there is a strong direct relationship between meeting the organizational objective and targets by the CEPMO and the value added by the CEPMO which highlighted the importance of achieving such objectives to enable the higher management to realize the importance of the CEPMOs and to believe that CEPMOs add values and not adding a cost.

The study revealed that there is a direct relationship between competency of the CEPMO's leader and its staff and the value added by the CEPMO, and that is a crucial factor to ensure the success of the CEPMOs to have skilled leader and staff to achieve the CSFs of the CEPMOs.

Moreover, the results of the collected data show that there is a positive relation between suitability of the CEPMO structure and the added value by the CEPMO. Hence, the structure of the CEPMO should suitable to the structure and nature of organization since there is no one standard structure of PMO can be applied at all types of organization.

Meanwhile, the correlation analysis that showed there is a moderate relationship between knowing the objectives behind the establishment of the CEPMO and the added value by the CEPMO, so the regression analysis revealed that only weak percentage, 17.6%, of the added values by CEPMO can be explained by knowing the objectives behind the establishment of the CEPMO. Concurrently, correlation analysis that showed there is a moderate relationship between senior management support and the value added by the CEPMO, hence regression analysis confirmed that weak percentage, 19%, of the added values by CEPMOs can be explained through achieving senior management commitment.

An implication of this study is to encourage contracting organizations in UAE, medium and large size, to evolve their PMOs to achieve the CSFs of the CEPMOs itself to ensure adding values to the organization that can enhance the entire organizational performance.

Subsequently, these findings enhance our understanding of the importance to achieve the CSFs of CEPMOs to add values to the organization by the CEPMOs and to have a central

EPMO that can standardize the project management methodology, procedures, and policy to achieve the desired performance of projects at the different Emirates of UAE in case of the organization has regional branches in the different Emirates of UAE and to avoid the noticeable fluctuation in the performance if there is no standard project management methodology since each branch lies on the personal skills of its project manager.

The current study confirms previous research findings since it contributes more evidence that suggests there is a strong relationship between meeting the CSFs of CEPMOs and its added value to the organization.

The findings of this study are limited by at least three main limitations and caveats. First, the findings are limited to the contracting organizations within UAE context only, and it should not be generally used worldwide since the results of any research that carry out based on population sample, should be popularized within that population only. Second, the study examined only six CSFs of the CEPMOs while the literature review chapter has provided more CSFs that need to be examined in the upcoming research. The final main limitation is that the results of this paper were observed through survey questionnaire which might be affected by the participants' tendencies and biases according to the nature of the survey questionnaire.

7.3 Recommendations

The main recommendation of this study is that contracting organizations in UAE are recommended to achieve the CSFs of CEPMOs to boost the values that can be added by their CEPMOs to enhance the overall organizational performance, and this aim can be achieved through having a central EPMO that can monitor and control all the projects in the different Emirates in UAE, through controlling the regional PMOs, to maximize these added values.

Accordingly, the findings of the current study suggest multiple courses of action that are recommended to the contracting companies in UAE to enhance their performance since

this study has investigated the individual relationships between achieving the CSFs of CEPMOs and the value that can be added by CEPMOs and several observations were revealed, so the following recommendations are recommended:

- According to this study, it was realized that meeting the organizational objective and targets has a strong relationship with the value added by the CEPMO, and it significantly contributes the added values of CEPMOs. Therefore, contracting organizations in UAE are recommended to establish central EPMO that can manage and control the different projects in the different emirates of UAE to meet the entire organizational objectives and not only the objectives of their projects to ensure that the CEPMO adds values to the organization.

Hence, contracting organizations are recommended to prioritize the organizational objectives according to definite criteria and creating a specified procedure to monitor the different organization branches to achieve these objectives. Furthermore, organizations are recommended to focus on the process that used to evaluate the achieved business objectives against the organizational objectives/targets and make the necessary action if there is a noticeable discrepancy between them.

- It was observed that the competency of CEPMOs' leader and staff has a significant effect on the added values that can be added to the organization by CEPMOs. Accordingly, organizations are recommended to select the PMO's leader and staff according to specified skills and qualification that should be aligned with the organizational strategies and objectives to ensure adding values to the organization. Moreover, organizations are recommended to have a powerful training plan to provide the CEPMO's leader and his staff with the required management and technical skills which are required to add the appropriate level of values and enhance the performance of their organizations. CEPMOs can assess and provide the

required training courses for each individual to ensure their contribution to the organizations. While, organizations are recommended to have an explicit career ladder promotion and obvious performance assessment procedure to measure and assess CEPMO's leader and staff's performances and compare it with the pre-defined goals and performance.

- One of the significant findings to merge from this study is strong relationship between suitability of the CEPMO structure and the added value by the CEPMO. Hence, organizations are recommended to assess their needs and requirement that should be achieved by their CEPMOs and establish their CEPMOs according to these requirements. So, the structure of CEPMO should be established according to the organizational structure, nature, needs, and requirements since there is no one standard structure of PMO that can be suitable for all types and size of organizations.
- The current study supports the relevance of the relationship between clarity of CEPMO charter and the added value by the CEPMO. Therefore, organizations are recommended to define roles and responsibilities, influence and power, stakeholders, and the anticipated goals that should be achieved by CEPMO. Furthermore, organizations are recommended to set the CEPMO policy that includes risk management, communication management, and human resource management which will be used to align the CEPMO with the organizational goals and objectives to maximize the organizational profit.

Eventually, organizations are recommended to define CEPMO methodology that should include methodologies, procedures, and metrics that should be used to deal with the organizational business need, and it deals with the required budget, status report, the risk management, change management of the projects.

7.4 Recommendations for Further Research.

This current study opens an access for further research that can deal with the same topic to observe more understanding of the current findings. Accordingly, future research are recommended to be carried out based on large sample that can be observed from different geographical areas all over the world which could not be done through this study according to time constraint. The following recommendation can be considered for the future studies, while the study limitations (chapter six) can be considered its guidance:

- More CSFs of CEPMO that are not covered in this study can be analyzed to observe their correlations and effects on the expected added values by the CEPMOs.
- This study has thrown up many questions that need further investigation about the relationship between senior management commitment and the added values by CEPMOs.
- Considerably more work will need to be done to explore and investigate the relationship between knowing the objectives behind the establishment of the CEPMO and the added value by the CEPMO.
- More broadly research are required to better understanding the different CSFs of CEPMOs and the values that can be added to the organizations, and those research should be carried out not only in UAE, but worldwide.
- Future studies should concentrate on the investigation of the relationship between meeting the CSFs of CEPMOs and standardize the project methodology to examine the influence between them in detail.
- It would be interesting to assess the effects of achieving the CSFs of CEPMOs on the enhancement of communication among the different parties to reveal the correlation between them.

7.5 Contributions of the Study

It is apparent from the findings of this study that it has some important implications that can be considered by the contracting organizations in UAE to gain the utmost values of

their CEPMOs. This research was carried out to examine the relationship between achieving the CSFs of the CEPMOs and the values that can be added by the CEPMOs and to identify which factors of CSFs affect significantly the added values by the CEPMOs. Moreover, relationships between individual factors of the CSFs and the added values were examined and observed. It is prominence to highlight that this study is the first study to examine these relationships through empirical data in the field of project management since it was not dealt in the preceding studies.

Therefore, this study has multiple contributions to enhance the understanding of the importance to achieve the CSFs of the CEPMOs and its relationship with the values that can be added by the PMO and these contributions can be summarized into two main categories according to the followings:

7.5.1 Theoretical Contribution.

Indeed, the relationships between factors of the CSFs of CEPMOs and the added values by CEPMOs were discussed in the previous research as written in the literature review chapter two, but it was not based on empirical data and that is one of the key contribution of this study that the results and findings of this study are based on empirical data within UAE and these findings identified clearly which factors of the CSFs of the CEPMOs has significant contribution to boost the added values by the CEPMOs.

Secondly, this study gathered different definitions of the PMO to enhance the understanding of the PMOs' roles and functions that can be the main wheel of the organization to achieve its objectives and goals, while it differentiate between CSFs of the PMOs and CSF of the projects that may confuse many of the project managers.

The third contribution is that the study obviously differentiates between the performance and success that most of higher management thinks they are the same concept as it is mentioned in the literature review, while it has provided a specific way to measure and assess the PMOs performance.

Eventually, this study opens the doors for further studies to analyze and examine the relationships between CSFs of CEPMOs and the added values by the CEPMOs and to consider more CSFs that mentioned in the literature review and they were not examined in this study according to the study limitations as mentioned in section 4.5 and section 6.3

7.5.2 Practice Contribution

The most striking result to emerge from this study is identifying the most important factors of the CSFs of the CEPMO that affects the added values by the CEPMO that will guide the organizations in UAE to achieve their objectives and goals. Meanwhile, the study highlighted the importance to have CEPMO and the risk, threats, that should be considered and studied well prior to establish a CEPMO or even a new CEPMO as mentioned in the literature review.

Moreover, the study identified the potential sources of the CSFs of the PMOs that can guide the organizations to meet and achieve these factors successfully.

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Appendices

Appendix 1 PMO Maturity Cube

The conference (PMI Research and Education Congress 2010) develops PMO maturity cube to enable the organizations to assess their PMOs maturity level. As shown in figure 1, the three sides of this cube are approaches (operational, tactical, and strategic), scope (enterprise, departmental, and program/project), and eventually the maturity level (basic, intermediate, and advanced).

Hence, this model determines the PMOs maturity level through performing three questionnaires that related to the assessments of strategic, tactical, and operational travails. When the questionnaires (sample shown in table 1) are completed, the entire marks of the current organizational level and the wanted level can be observed and it is divided into the three approaches, and according to those scores the current and desired maturity level can be evaluated.

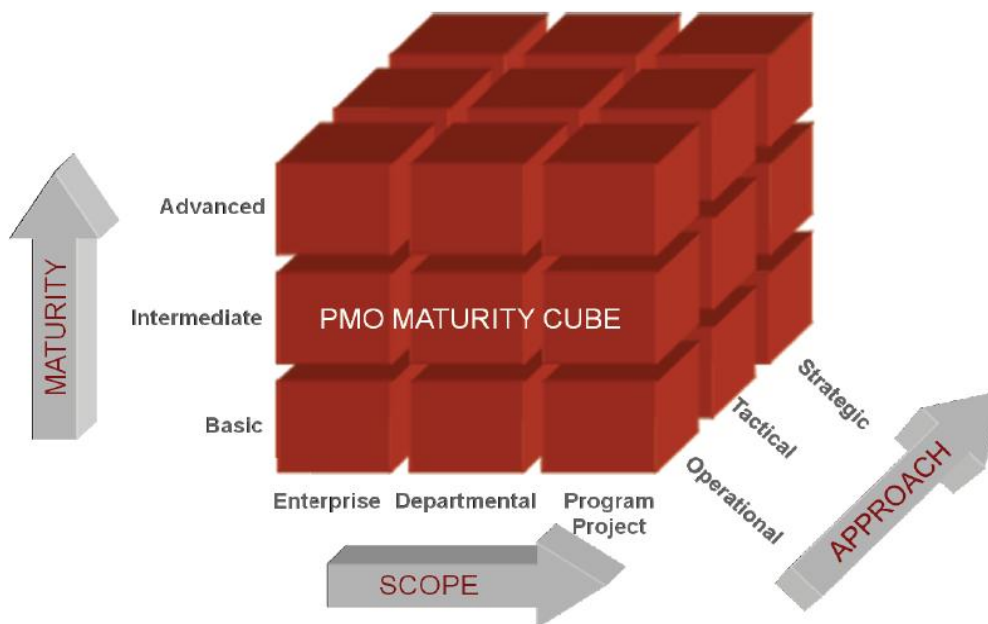


Figure1: PMO Maturity Cube (PMI Research and Education Congress 2010)

ENTERPRISE PMO QUESTIONNAIRE		
Tactical Services Assessment		
A.2.1 - How does the PMO develop and implement the project management methodology?	Current Level	Target Level
Level 0 – The PMO does not have this function		
Level 1 - The PMO has developed a basic methodology for the organization, but it is not used consistently on all projects.	X	
Level 2 - The PMO has developed a standard methodology for the organization, aligning possible existing methodologies in different areas, and the methodology used in most projects in the organization.		
Level 3 - The PMO has developed a standard methodology for the organization, and it is used by all projects, as it is mandatory unless a specific waiver is requested and approved.		X
Level 4 - The PMO has developed and improved the standard methodology for the organization focusing on best practices and continuous improvement.		

Table 1: Example of a question from the PMO Maturity Cube model Questionnaire for an Enterprise PMO (PMI Research and Education Congress 2010)

It is beneficial to define that the current maturity level means the ability of PMO to furnish all the likely functions of the PMO when it is mature, while desired maturity level explains the maturity level that PMO aims to achieve taking into account only the functions that the organization is interested to them in the desired maturity level.

The current maturity level is computed within the three approaches through comparing the score of actual organizational position with whole likely score for the model, while the desired maturity level can be computed through comparing the score of desired organizational position with whole likely score for the model and both the current and desired maturity level should be shown as percentages.

Eventually, the following figures can be used to judge the maturity level of the PMOs:

- $0 \% \leq \text{Maturity Level} \leq 33 \%$ basic maturity level
- $34 \% \leq \text{Maturity Level} \leq 66 \%$ Moderate maturity level
- $67 \% \leq \text{Maturity Level} \leq 100 \%$ Advanced maturity level

Appendix 2: PMOs Maturity Model by Hill (2004).

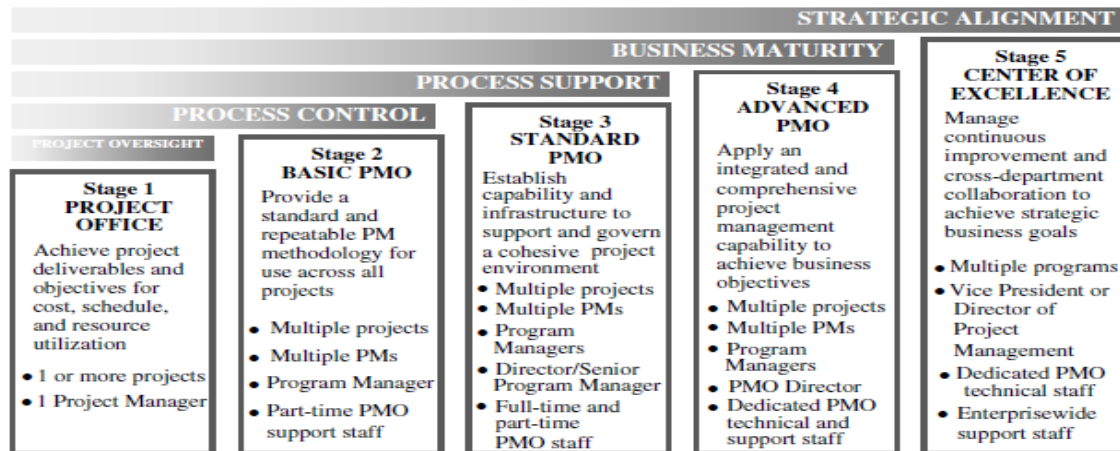


Figure 1: PMO Maturity Levels (Hill G.M., 2004)

Hill (2004) sheds light on definite five levels model of PMOs' maturity as shown in figure one through development of PMOs functions and competency. Every level of the five levels propose a particular PMO's working capability that can be acquired by PMOs, and these five PMOs levels can demonstrate the position of the organization in the project management maturity.

Level one: The Project Office (Project oversight).

In this level the project office is the essential entity to monitor and control the projects within the organization, and it is developed to support the project managers to achieve each project's objectives. It furnishes the ability to apply the best tools and techniques to every project activities.

Whilst, the organization will confront great difficulties to ensure that same project management methodology is followed if the organization has more than a project office at different geographical areas, so an advanced stage of PMO could be launched to lead the project office tasks.

Furthermore, project office is not responsible for program or strategic objectives and it cannot meet with the conventional functions of the PMOs. Nevertheless, project office performs and controls the performance of the projects at the level of projects' members.

The roles and functions of PMOs in this maturity level are as the followings:

- Providing the project manager with the appropriate project management tools and methodologies to ensure that the project will meet its objectives.
- It will discriminate between technical and management skills, and it concentrates on the project management skills of the projects' team to assure the project prosperity
- Implementation of the organizational directions in the term of the procedures, senior management's instruction to every project.
- Working as the primary stage of the project supervision.

Level Two: The Basic PMO (Process Control).

It is also named program office and it acts as the first PMO level that controls and monitors many projects to support the project managers to accomplish their goals. At this stage the PMO has the low employee, only one person may be hired full-time, to establish the PMO with little part-time resources, but these requirements may not be the same from one organization to another depending on the business environment and organizational objectives.

The roles and functions of PMOs in this maturity level are as the followings:

- Introducing the appropriate tools and techniques in the field of project management.
- Analysis of the project performance reports to make the necessary action to keep the project within its baselines.
- Increase the recognitions of the project management through selecting, training, and authorizing the project managers to properly manage their projects.
- Basic PMO is responsible to create and sustain healthy project management environment.

Level Three: The Standard PMO (Process Support).

Most of organizations realize that this level as adequate PMO level for their business to achieve their organizational targets and objectives since this level consider the project management is the core business of the organization that can enhance the organizational maturity.

From the organizational point of view, in this level PMOs concentrate on enhancement of performance of both the project team members and projects, and it is also considered the centralized focal point for supervision, monitoring and controlling of the projects activities. This standard PMO needs a full-time chief plus two part-time or full-time employees to simplify the PMO activities. Same while, the staff of the standard PMOs may be extended according to the business need and the workload at the organization in different disciplines. This level can be accomplished within a period of two-three years if the required resources will be hired as it is required in addition to the higher management' support to the endeavors and activities of the PMOs.

The roles and functions of PMOs in this maturity level are as the followings:

- Performing as a communication channel between the entire business circumference and project management environment.
- Functioning as the main assistant of the project management at the company since it provides the project manager and his team with the most appropriate practices and experience; furthermore it organizes the relation among the organizations, project, and project's stakeholders.
- Acting as the deputy of the project management to the higher management and steering committee at the company, and it can carry out the same function to the external partners and project's stakeholders.
- Performing as the organizational structure that allocates the required resources to the different projects, and it deals with the required training, mission, and assessment of the individuals.

Level Four: The Advanced PMO (Business maturity).

This level is developed from a present PMO and it is not new, accordingly it is named as the big brother of the last level (standard PMO) and that is why standard PMO should be created prior to the advanced PMO.

The key functions of this level is to concentrate on the integration of the business goals into the process of the project management which means applying of the appropriate practices to both of project management and business approaches. Subsequently, this level requires additional skilled and managerial staff and resources to evolve, incorporate, and handle the development of processes, roles, approaches and policies to effectively manage the projects and achieve the organizational strategic goals and objectives that need more authority to be granted to the advanced PMO.

This advanced level undertakes overall supervision, monitoring, and controlling of project activities jointly with the extended functionality to achieve the desired organizational maturity level.

The roles and functions of PMOs in this maturity level are as the followings:

- It is seen as an independent business entity since it develops and handles its own budget to ensure development and sustain of the project management approaches and methodologies.
- Cooperating with the business directorate at the organization to enhance the approaches of the project and business environments.
- Offering the relevant experience on the project management field within the organization that requires full-time skilled PMOs' staff that can provide professional solutions that may hinder the proper implementation of the project management modern approaches, policies, and procedures. These PMOs' employees can monitor the different projects' outcomes according to the projects baselines and the expected results of each project and their contribution to the organizational objectives. These staff may include different disciplines such as

technical, legal, purchasing, human resource, customer cares, and managerial expertise.

Level Five: The Center of Excellence (Strategic Alignment).

The center of excellence is an independent business entity that is responsible for monitoring and controlling of the huge projects to achieve organizational strategic objectives and goals. Although this function may be carried out by the down level of PMOs, the center of excellence has a unique impact on the organizational performance to undertake this function, and it has an executive staff that has a communication channel with the senior management.

Establishment of the center of excellence can be done through two different paths: the first can be established as a normal outcome of the growth of business and the organizational intention to evolve the existing PMOs and that is practically happened at the organizations which have small to medium size. The second path is normally occurred at the big organization when it would like to establish center of excellence, separately from any present PMO, to achieve strategic goals and objectives. Accordingly, the function and roles of the center of excellence are included in appendix 2

The roles and functions of PMOs in this maturity level are as the followings:

- It monitors and controls the big projects to align them with the organizational strategies and objectives.
- Carrying out any required studies and performing project assessments against to pre-set metrics to make the necessary decision to ensure compliance with the organizational strategy.
- Achieving stakeholders' satisfactions through increasing their awareness and acceptances of the project progress, milestones, and outcomes.
- Incorporating the business welfare, at the firm, in the project management processes and conversely.

Appendix 3: Final Questionnaire

Effectiveness of Project Management Office (PMO) in UAE Context:
Exploring the Link between Critical Success Factors (CSF) of Central
Enterprise PMO and its Added Values.

Dear Participant,

I am a graduate student at the British University in Dubai (BUiD), in association with University of Manchester (UK), doing my master degree in the project management discipline. According to the requirements of the stated master degree I am conducting this survey to get your fruitful contribution in the attached questionnaire that is required for my thesis (dissertation).

Meanwhile, the main aim of this survey is to explore the relationship between achieving the Critical Success Factors (CSFs) of the central Enterprise Project Management Office (CEPMO) and its added value to the organization. Therefore, I would like to define the critical success factors as the important areas that should be dealt successfully (achieving or meeting) by the organizations to achieve its goals and objectives, while the added values are the benefits that the organization will gain according to having such CEPMO.

I would like to highlight that all the collected data of this survey will be treated confidentially and it will be used only for the purpose of this research and it will not be shared with any third party.

Accordingly, I am kindly requesting you to participate in this survey by filling up the following survey because you have been working/dealing with PMO at your organization or at client's side. Hence, this survey will consume around fifteen minutes of your valuable time, and you can return the completed questionnaire to me through E-mail.

So, I anticipate your kind reply within three business days or as soon as possible thereafter to enable me to observe the research findings and results that can be shared with your good self after completing the entire research.

The questionnaire consists of three parts as enclosed:

- 1- Participant's personal information.
- 2- Critical Success Factors (CSFs) of the CEP MO.
- 3- The added value of CEP MO.

Concurrently, if you are not satisfied with any part of this questionnaire or its style; you may contact my dissertation supervisor Dr. Paul Gardiner via his E-mail paul.gardiner@buid.ac.ae

Eventually, if you have any inquiry or question regarding this questionnaire, please do not hesitate to contact me on 00971-55-6788845 or via E-mail address 100099@student.buid.ac.ae

Sincerely,

Emad Elsayed Abdel Halim Abdel Fatah
MSc Student
British University in Dubai (BUiD)
Dubai International Academic City (DIAC)
P.O. Box 345015
Dubai, UAE

Part One: Participant's Personal Information (Please tick only one box per item by double clicking on it).

1- What is your sex?

Female

☐

Male

☐

2- What is your highest degree, level, of education?

Master or above

☐

Bachelor

☐

High Diploma

☐

High school

☐

3- What is your age?

Less than 25

☐

25-35

☐

36-45

☐

46-54

☐

55 and above

☐

4- What is your nationality?

UAE

☐

Other

☐

5- What is your marital status?

Married

☐

Divorced

☐

Single

☐

6- What is your total number of Work experience years?

20 years or above

☐

19-10 years

☐

9-5 years

☐

less than 5 years

☐

7- How many years have you been working at current organization?

20 years or above

☐

19-10 years

☐

9-5 years

☐

less than 5 years

☐

8- Do you work with project management office (PMO)?

Yes

No

☐☐

9- What is your role in project?

☐ Project support

☐ Project manager

☐ Program manager

☐ Program director

10- What is your current occupation Level?

☐ Executive level (CEO, Deputy Managing director)

☐ Upper management (Director)

☐ Middle management level (Department manager)

☐ Project manager

☐ Junior management level (Section or unit manager)

Part Two:

Critical Success Factors (CSFs) of the CEPMOs:	Please tick only one box per item by double clicking on it.				
	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
V1- Knowing the objectives behind the establishment of the CEPMO.					
11- Organization defines clearly the objectives of establishment CEPMO.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12- Objectives of establishment of CEPMO should be informed to the CEPMO leader (Director).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13- CEPMO leader discusses the objectives of establishment of CEPMO with the stakeholders.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14- CEPMO leader informs the CEPMO staff about the objectives of having CEPMO.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15- Organization ensures that all employees know the objectives of having CEPMO.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
V2- Suitability of EPMO structure with respect to organizational structure.					
16- Structure of the CEPMO should be suitable to the organization structure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17- Organization selects the structure of CEPMO according to its structure and business need.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18- Structure of CEPMO is dynamic to adopt any change in organization structure or business need.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19- CEPMO leader adheres to the defined	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

structure of the CEPMO.					
20- Organization ensures that structure of the CEPMO operates properly as defined.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
V3- Senior management commitment.					
21- Senior management supports CEPMO management to achieve its goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22- Senior management encourages CEPMO leader to effectively manage his staff.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23- Senior management provides CEPMO's staff with suitable rewarding if they achieve the defined goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24- Senior management clearly defines a specified ladder of promotion for CEPMO's staff.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25- Senior management settles any social problem of CEPMO's staff to let them concentrate at their works.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
V4- Clarity of CEPMO charter.					
26- CEPMO charter is developed and approved prior to establishment of the CEPMO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27- CEPMO charter should be explicit enough to define the objectives of the CEPMO.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28- EPMO charter defines clearly the roles and responsibilities of the EPMO.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29- CEPMO has a clear defined CEPMO policy that includes risk, human, and resources managements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30- CEPMO has an explicit CEPMO methodology that defines the procedure and metrics to assess the performance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
V5- Competency of CEPMO's leaders and staff.					

31- Organization selects the suitable CEPMO leader according to definite skills and qualifications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32- Organization assesses periodically the performance of the CEPMO leader.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33- CEPMO leader selects the appropriate Project manager of each project according to its nature and requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34- Organization provides the required training courses to its CEPMO staff to develop their skills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35- CEPMO leader evaluates the performance of all project managers according to definite metrics.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
V6- Meeting organizational objectives and targets					
36-CEPMO staff realizes the organizational objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37-CEPMO achieves the organizational objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38- Organization monitors the performance of CEPMO to ensure achieving its targets.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39- CEPMO leader monitors the projects' performance to ensure their success to achieve the organizational goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40- CEPMO staff understands that the project success is a part of the organizational goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Part Three:

Added Values of the CEPMOs:	Please tick only one box per item by double clicking on it.				
	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
V1- Achieving strategic goals and objectives					

41- Having CEPMO enables the organization to define its strategic goals and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42- CEPMO enables the organization to achieve its strategic goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43- Having CEPMO enables the organization to develop a strategic plan to achieve its goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44- CEPMO supports the organization to follow up achieving its strategic goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45- CEPMO enables the organization to select the projects which enables it to achieve its strategic goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
V2- Standardize project methodology.					
46- Having CEPMO enables the organization to standardize the project methodologies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47- CEPMO supports the organization to have the appropriate projects policies and procedures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48- Having CEPMO lets the different regional PMOs to speak the same language in project management.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49- Having standard project management methodology enables the organization to measure the performance and success of different projects based on same metrics.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
50- Having standard policies minimize the threats that may happen in the projects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
V3- Enhance communication.					
51- CEPMO enhances the communication at the organization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
52- CEPMO boosts the communication among the projects managers and senior management.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

53- Having CEPMO enhances the communication between the organization and other stakeholders.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
54- CEPMO boosts the communication between project managers and functional managers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
55- Having CEPMO enhances communications to solve any problem at the earliest.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
V4- Optimum use of resources.					
56- CEPMO enables the organization to use effectively the available resources.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
57- Having CEPMO enables the organization to have the required resources on time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
58- CEPMO enables the organization to have the required resources with the minimum cost.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
59- Having CEPMO supports the organization not to have idle resources.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
60- CEPMO provides project managers with the efficient resources to accomplish their projects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
V5- Enhance projects' performance.					
61- Having CEPMO enables the organization to avoid fluctuation in the different projects' performance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
62- CEPMO supports the organization to enhance the project performance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
63- Having CEPMO maximizes the opportunities and minimizes the threats in any project.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
64- Having CEPMO enables the organization to well planning for the expected problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

65- CEPMO enables the organization to pursue the performance of the projects that enhance its performance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
V6- Achieving customers' satisfaction.					
66- CEPMO enables the organization to achieve customers' satisfactions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
67- Having CEPMO supports the organization to gather the customers' needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
68- CEPMO enables the organization to get the official clients' acceptance for the projects' deliverable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
69- Having CEPMO enables the stakeholder to be involved in the project progress that enables the organization to achieve their satisfactions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
70- CEPMO enables the organization to have more projects in the future through achieving customers' satisfaction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 4: Pilot Questionnaire

Effectiveness of Project Management Office (PMO) in UAE
Context: Exploring the Link between Critical Success Factors (CSF)
of Central Enterprise PMO and its Added Values.

Dear Participants,

I am a graduate student at the British University in Dubai (BUID), in association with University of Manchester (UK), doing my master degree in the project management discipline. According to the requirements of the stated master degree I am conducting this survey to get your fruitful feedback regarding the attached pilot questionnaire that is required for the survey of my thesis (dissertation).

The purpose of this pilot questionnaire is to get your feedback regarding the wording and structure of questions (not to get your answers on the questions themselves), while any comment may be provided by your good self will be incorporated in the final version of the survey questions to enable me to conduct the final survey.

Meanwhile, the main aim of this survey is to explore the relationship between achieving the Critical Success Factors (CSFs) of the Central Enterprise Project Management Office (CEPMO) and its added value to the organization. Therefore, I would like to define the critical success factors as the important areas that should be dealt successfully (achieving or meeting) by the organizations to achieve its goals and objectives, while the added value is the benefit that the organization will get due to having such CEPMO.

I would like to highlight that all the data of this survey will be treated confidentially and it will be used for my research purpose only and it will not be shared with any third party.

Accordingly, I am kindly requesting you to participate in this pilot questionnaire that will consume around fifteen minutes of your valuable time and with your kind comments, I will revise the questions of the survey.

The questionnaire consists of three parts as enclosed:

- 1- Participant's personal information.
- 2- Critical success factors (CSFs) of CEPMO.
- 3- The added value of CEPMO.

Eventually, if you have any inquiry or question regarding to this pilot questionnaire, please do not hesitate to contact me on 00971-55-6788845 or at e.e101@yahoo.com

Thanks and Regards,

Emad Elsayed Abdel Halim

MSc Student

British University in Dubai (BUiD)

Dubai International Academic City (DIAC)

P.O. Box 345015

Dubai, UAE

Part One: Participant's Personal Information

(Please tick **electronically** only on one box

per item)

1- What is your sex?

Female

☐

Male

☐

2- What is your highest degree, level, of education?

Master or above

☐

Bachelor

☐

High Diploma

☐

High school

☐

3- What is your age?

Less than 25

☐

25-35

☐

36-45

☐

46-54

☐

55 and above

☐

4- What is your nationality?

UAE

☐

Foreigner

☐

5- What is your marital status?

Married

☐

Divorced

☐

Single

☐

6- What is your total number of Work experience years?

20 years or above

☐

19-10 years

☐

9-5 years

☐

less than 5 years

☐

7- How many years have you been working at current Organization?

20 years or above

☐

19-10 years

☐

9-5 years

☐

less than 5 years

☐

8- What is your current occupation Level?

☐ Executive level (CEO, Deputy Managing director)

☐ Upper management (Director)

- ☐ Middle management level (Department manager)
- ☐ Junior management level (Section or unit manager)
- ☐ Project manager

9- What is your native language?

English Another language

☐ ☐

10- Have you worked or dealt with project management office before?

Yes No

☐ ☐

Part Two:

CEPMO's Critical Success Factors (CSFs)	Please tick only one box per item by double clicking on it				
	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
11- Organization should define clearly the objectives of establishment the CEPMO.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12- Objectives of establishment of CEPMO should be informed to the CEPMO leader (Director).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13- CEPMO leader should discuss the objectives of establishment the PMO with stakeholders.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14- CEPMO leader should inform the CEPMO staff about the objectives of having CEPMO.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15- Organization should ensure that all employees know the objectives of having CEPMO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16- Structure of the CEPMO should be suitable to the organization structure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17- Organization should select the structure of CEPMO according to its structure and business need.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18- Structure of CEPMO should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

dynamic to adopt any change in organization structure or business need.					
19- CEPMO leader should adhere to the defined structure of the PMO.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20- Organization should ensure that structure of the CEPMO operates properly as defined.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21- Senior management should support CEPMO management to achieve its goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22- Senior management should encourage CEPMO leader to effectively manage his staff.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23- Senior management should provide CEPMO's staff with suitable rewarding if they achieve the defined goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24- Senior management should clearly define a specified ladder of promotion for CEPMO's staff.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25- Senior management should settle any social problem of CEPMO's staff to let them concentrate at their works.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26- CEPMO's charter should be developed and approved prior to establishment of the CEPMO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27- CEPMO charter should be explicit enough to define the objectives of the CEPMO.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28- CEPMO charter should define clearly the roles and responsibilities of the CEPMO.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29- CEPMO should have a clear defined CEPMO policy that includes risk, human, and resources managements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30- CEPMO should have an explicit CEPMO methodology that defines the procedure and metrics to assess the performance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

31- Organization should select the suitable CEPMO leader according to specified skills and qualifications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32- Organization should assess periodically the performance of the CEPMO leader.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33- CEPMO leader should select the appropriate Project manager of each project according to its nature and requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34- Organization should provide the required training courses to its CEPMO staff to develop their skills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35- CEPMO leader should evaluate the performance of all project managers according to definite metrics.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36- CEPMO staff should realize the organizational objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37-CEPMO should achieve the organizational objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38- Organization should monitor the performance of CEPMO to ensure achieving its targets.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39- CEPMO leader should monitor the projects' performance to ensure their success to achieve the organizational goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40- CEPMO staff should understand that the project success is a part of the organizational goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Part Three:

<u>Added Values of the PMOs:</u>	Please tick only one box per item by double clicking on it				
	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
41- Having CEPMO enables the organization to define its strategic goals and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42- CEPMO enables the organization to	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

achieve its strategic goals.					
43- Having CEPMO enables the organization to develop a strategic plan to achieve its goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44- CEPMO supports the organization to follow up achieving its strategic goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45- CEPMO enables the organization to select the projects which enables it to achieve its strategic goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
46- Having CEPMO enables the organization to standardize the project methodologies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47- CEPMO supports the organization to have the appropriate projects policies and procedures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48- Having CEPMO lets the different regional PMOs to speak the same language in project management.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49- Having standard project management methodology enables the organization to measure the performance and success of different projects based on same metrics.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
50- Having standard policies minimize the threats that may happen in the projects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
51- Having CEPMO enhances the communication at the organization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
52- CEPMO boosts the communication among the project managers and senior management.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
53- Having CEPMO enhances the communication among the organization and other stakeholders.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
54- CEPMO boosts the communication between project managers and functional managers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
55- Having CEPMO enhances communications to solve any problem at the	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

earliest.					
56- CEPMO enables the organization to use effectively the available resources.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
57- Having CEPMO enables the organization to have the required resources on time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
58- CEPMO enables the organization to have the required resources with the minimum cost.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
59- Having CEPMO supports the organization not to have idle resources.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
60- CEPMO provides project managers with the efficient resources to accomplish their projects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
61- Having CEPMO enables the organization to avoid fluctuation in the different projects' performance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
62- CEPMO supports the organization to enhance the project performance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
63- Having CEPMO maximizes the opportunities and minimizes the threats in any project.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
64- Having CEPMO enables the organization to well planning for the expected problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
65- CEPMO enables the organization to pursue the performance of the projects that enhance its performance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
66- CEPMO enables the organization to achieve customers' satisfactions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
67- Having CEPMO supports the organization to gather the customers' needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
68- CEPMO enables the organization to get the official clients' acceptance for the projects' deliverables.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
69- Having CEPMO enables the stakeholder to be involved in the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

progress that enables the organization to achieve their satisfactions.					
70- CEPMO enables the organization to have more projects in the future through achieving customers' satisfaction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>