

الجامعة
البريطانية في
دبي



The
British University
in Dubai

**A Study on the Major Problem Areas in managing
the Project Portfolio and their Impact on the
Efficiency of the PPM**

دراسة حول المشاكل الرئيسية في ادارة محفظة المشاريع وتأثيرهم
على فعاليتها

**By
Alia Marjan Mubarak**

Dissertation submitted in partial fulfillment of
MSc Project Management

Faculty of Business

Dissertation Supervisor

Professor Arun Bajracharya

April-2011

DISSERTATION RELEASE FORM

Student Name	Student ID	Programme	Date

Title

I warrant that the content of this dissertation is the direct result of my own work and that any use made in it of published or unpublished copyright material falls within the limits permitted by international copyright conventions.

I understand that one copy of my dissertation will be deposited in the University Library for permanent retention.

I hereby agree that the material mentioned above for which I am author and copyright holder may be copied and distributed by The British University in Dubai for the purposes of research, private study or education and that The British University in Dubai may recover from purchasers the costs incurred in such copying and distribution, where appropriate.

I understand that The British University in Dubai may make that copy available in digital format if appropriate.

I understand that I may apply to the University to retain the right to withhold or to restrict access to my dissertation for a period which shall not normally exceed four calendar years from the congregation at which the degree is conferred, the length of the period to be specified in the application, together with the precise reasons for making that application.

Signature

Acknowledgment

***I owe my deepest gratitude to Allah the Almighty
and then to my beloved mother and father for
their blessings.***

***I am heartily thankful to my supervisor Dr. Arun
Bajracharya, whose encouragement, guidance
and support from the initial to the final level
enabled me to develop and complete this
dissertation.***

***Lastly, I offer my regards and blessings to all of
those who supported me in any respect during
the completion of the dissertation.***

Alia Marjan

Abbreviations

PPM: Project Portfolio Management

PPS: Project Portfolio Scheduling

PPSS: Project Portfolio Scheduling System

PMO: Project Management Office

PM: Project Management/Manager

MPM: Multiple Project Management

MGMP: Management of a group of multiple projects

SPM: Single Project Management

PMP: Project Management Professional

DCA: Dubai civil Aviation

EP: Engineering Projects

EPD: Engineering Projects Department

SSE: Safety, Security & Environment

BSI: British Standards Institute

IIRSM: international Institute of Risk & safety Management

IEMA: International Environment Management Assessment

HRD: Human Resources Development

Table of Contents

Abstract in Arabic.....	1
Abstract.....	2
Chapter 1: Introduction	
1.1 Research Problem.....	3
1.2 Research Background.....	3
1.3 Aim and objectives.....	5
1.4 Dissertation structure.....	6
Chapter 2: Literature Review	
2.1 Introduction.....	8
2.2 Definition and Importance of PPM.....	8
2.3 PPM set up and Processes.....	12
2.4 Problems in PPM.....	18
2.5 Solution, methods to increase PPM efficiency.....	34
Chapter 3: The Conceptual Framework.....	42
Chapter 4: The Methodology	
4.1 Introduction.....	45
4.2 Research Problem.....	45
4.3 Research Approach.....	45
4.4 Data Collection Process.....	46
4.4.1 Literature Review.....	46
4.4.2 Case Study.....	47
4.4.3 Interviews.....	48
4.5 Observation and Reviewing Secondary Data.....	50
4.6 Data Analysis.....	50
4.7 Limitation to Data Collection.....	50

Chapter 5: Case Study	
5.1 Overview.....	51
5.2 Roles and Objectives.....	54
5.3 Critical Success Factors.....	55
5.4 Core Competencies.....	56
5.5 Main Functions.....	56
5.6 The Project Management Processes.....	58
Chapter 6: Discussion and Analysis	
6.1 Introduction.....	67
6.2 The Importance of the PPM.....	67
6.3 Measures of PPM effectiveness.....	68
6.4 Problems in PPM.....	69
Chapter 7: Recommendations and Conclusion	
7.1 Recommendations.....	84
7.2 Conclusion.....	92
7.3 suggestions for future research.....	93
References.....	94

List of Figures and Contents

Figure 1: General Framework.....	12
Figure 2: The event-driven procedure of PPS.....	14
Figure 3: Framework for Project portfolio selection.....	15
Figure 4: Stage gate information flow model.....	16
Figure 5: The importance of the communication flow in PPM.....	17
Figure 6: The overlap between projects and PM objectives.....	20
Figure 7: Goals and Achievement strategies matrix.....	24
Figure 8: An example of multiple projects management setup.....	25
Figure 9: Relationship between dependent and independent variables....	29
Figure 10: Relationship between main and sub-problems	30
Figure 11: Inter-relationship between independent variables.....	31
Figure 12: A framework for determining the efficiency level in PPM.....	36
Figure 13: Heuristic approach to PPM.....	39
Figure 14: Portfolio planning procedure in multi project organization.....	40
Figure 15: Flow resources allocation.....	41
Figure 16: The conceptual framework.....	43
Figure 17: EP organizational chart.....	53
Figure 18: Influence over value in the design stage chart.....	60
Figure 19: Influence over value in design stage in term of cost chart.....	61
Figure 20: Factors of pressures on project cost and controls.....	62
Figure 21: Stage Gateway in EP.....	63
Figure 22: Pre contract change control process.....	65
Figure 23: The risk management Process.....	66
Table 1: Potential causes of financial related challenges.....	28
Table 2: Names of Participants.....	48

الملخص

إن الهدف الأساسي من هذه البحث هو دراسة المشاكل العامة المتعلقة بإدارة محفظة المشاريع والتركيز بعمق في العوامل التي تؤثر في كفاءة هذه المحفظة في مؤسسة حكومية تدير محفظة مشاريع في حكومة دبي. إن هذه الدراسة تتضمن نظرة عامة عن أهمية إدارة محفظة المشاريع و كيفية تأسيسها وعملياتها، وحيث إن

الإطار النظري يعتمد على كل من المراجعة المكثفة للكتب والمعرفة التي يمتلكها الباحث، فإن هذا الإطار النظري يدرس و يبحث في المشاكل التي تحدث المتغيرات في كفاءة إدارة محفظة المشاريع. كما اختار الباحث الطريقة النوعية المتقنة كاسلوب للبحث في هذه الدراسة ، وتتم أيضا عملية جمع البيانات من خلال البحث في الحالة المدروسة ضمن المؤسسة الحكومية التي تم اختيارها ومن خلال إجراء مقابلات مع مجموعة من العاملين في وظائف متعلقة بإدارة محفظة المشاريع يدور محور المقابلات حول المشاكل التي تؤثر على كفاءة إدارة محفظة المشاريع في المؤسسة.

إن نتيجة هذه الدراسة تكشف بأن هناك العديد من المشاكل المختلفة التي تؤثر على كفاءة إدارة محفظة المشاريع. و تختتم الدراسة بأن إدارة محفظة المشاريع الفعالة يعتبر عنصر أساسي و مهم في إدارة المشاريع و في أي مؤسسة، كما ان هناك أيضا بعض النواحي التي يجب تحسينها و تطويرها حتى تزيد من كفاءة إدارة محفظة المشاريع. لذلك طرح الباحث بعض النصائح والتوصيات لزيادة كفاءة إدارة محفظة المشاريع.

Abstract

The aim of this research is to investigate general problem areas in the Project Portfolio management, and to focus in depth on the determinants that affect the efficiency of PPM in terms of project based organization in Dubai Government. The study provides overview on the importance of the PPM and how to set up PPM and its processes. Nevertheless, the conceptual framework is designed from the extensive literature review and the knowledge of the researcher, this conceptual framework examines the problems as variables on the efficiency of the PPM. The researcher chooses the qualitative method as a research approach; also the data collection is done through investigating the case study in the selected organization and conducting interviews with staff who their jobs related to the projects regarding the problems that affect the efficiency of the PPM in the organization. The result of this study shows that there are different problems affect the efficiency of the PPM. The study concludes that the effective PPM is crucial in project management and in any organization, and there are some areas should be improved in order to increase the efficiency of the PPM. The researcher provides some recommendations to increase the efficiency of the PPM.

Keywords: Project Portfolio Management, project portfolio selection, project portfolio performance, resource allocation, priority, decision-making.

1. Introduction

1.1. Research Problem:

Recently the business world has observed a sharp interest in project portfolio management (PPM) due to several projects which going on at the same time within the single organization. In general, few studies have been conducted on projects portfolio management which identified the problems run into inadequate portfolio management and particular solutions, but still this issue is a new topic for researchers and practitioners and need further investigation.

The research question of this study is; what kind of problems areas that affect the project portfolio management and study the major problem areas in depth that affect the PPM performance and understanding the linkage between these problems with the entire PPM performance and efficiency.

1.2 Research Background

Scientific innovations and inventions have created new business environments; a number of software accustomed to a certain organization or purposes in an organization are continually being developed. On the other hand, organizations are facing dynamic business environment; characterized by information sharing, knowledge management, process automation, shortening product life cycle, and international trade. All these new elements of modern market are facilitated by technological development To remain competitive in the dynamic business environment, organizations need to be creative and innovative. The world is recovering from global financial crisis, which started in the year 2007, to remain in business and probably grow, process, products, and strategy innovations must be embarked on (Keith, 2003). Projects are temporary engagements that have three main stages, beginning, maturity and end, to effectively end, having attained the set objectives and goals of the project, project managers must have developed strategies for effective implementation.

Current project-based organizations focus on creativity in allocating the resources, project analyzing, scientific project management and use of computerized project management systems to ensure that they make the best choice of project to implement as well as devise appropriate project management systems. United Arab Emirates has embarked on major industrialization. The growth in the economy has been facilitated further by international trade where the country is a major player. In this effect, the country has a number of companies implementing different portfolio managements systems. This research paper discusses problems faced by UAE domestic organization when using PPM to manage their portfolios; it will evaluate the general performance of PPM implementation and seek to establish the linkage portfolio management problems and PPM tool implemented.

Recently, organizations across the world have adopted various Portfolio and Program management (PPM) plans: the project policy to adopt depends with the particular project that the company has, it also varies with the industry of a company. PPM programs are structured in a way that they can allow for different activities in an organization to run concurrently without affecting each other. Those areas of a program that needs to be operated in a mutually exclusive manner are monitored and controlled as so while those that successor or precede others are recognized. PPM uses lead-time and resource utilization policies to ensure that the available resources are distributed to different activities effectively.

Capital projects involves the investments of large sums of money to purchase assets like machinery, land or to build a factory; when undertaking such programs PPM assists an organization monitor how money and resources have been allocated and utilized in an organization. Before embarking on a project, PPM has tools that assist the management gauge the chances that the project will successes. It gauges the risk rate and the uncertainty that certain program will yield the expected gains. When a company has the dilemma of which project to invest in, when there are a

number of mutually exclusive projects to implement, then PPM has the tools to clear such dilemmas.

When implementing a project, there are some set objectives and goals that the project is expected to fulfill; the fulfillment of these objectives aligns the program with organizational goals and objectives. PPM assists in correct balancing and maximizing the value of the projects so as it can meet the expectation of an organization and stakeholders (Miia Martinsuo, Paivi Lehtonen, 2007).

Project managers have the role of ensuring that a set program meets its obligations, they are mandated with the task on condition regular appraisals to ensure that the project is on track. Success of project is dependent with the management that is adopted; for a successful portfolio management, a scientific management system should be implemented. Scientific management system relies on project managers' to develop policies and measures to have efficiency in their companies (Muller, and Rodney Turner, 2007).

1.3. Aim and Objectives

The aim of the current study is to investigate general problem areas in PPM. In addition to that this research focuses in depth the major determinants that affect the efficiency of PPM.

In this regards, the research has the following objectives:

- Defines the importance of the projects portfolio management.
- Identify problems in managing multiple projects.
- Explore solutions, techniques and methods used to increase the PPM efficiency.

1.4 Dissertation structure

This study surrounded seven chapters as shown below:

Chapter One: Introduction

The aim of the current study is to investigate general problem areas in PPM. In addition to that this research focuses in depth the major determinants that affect the efficiency of PPM in terms of project based organization in Dubai Government. The objectives of research were sited in order to accomplish this aim.

Chapter Two: Literature Review

Reviewing literatures extensively in order to answer the research question and to meet the research objectives. The literatures mainly focused on the problem areas in PPM and their relationship on the efficiency of the PPM. The literature chapter starts by defining the PPM and revealing the importance of the PPM. Then, important information about how to set up PPM and some information about PPM processes. Subsequently, the main topic which is the problems that affect the efficiency of PPM. Moreover, stating some solutions and methods to increase the efficiency of the PPM.

Chapter Three: The Conceptual Framework

According to the extensive literature review and the knowledge of the researcher, the conceptual frame work was designed in order to examine the problems as variables on PPM efficiency in the project based organisation in Dubai context.

Chapter Four: Methodology

Afterward, the framework and the methodology of the research were introduced in the methodology chapter. The researcher in this chapter presented her research approach, participants, and instruments for this dissertation in details. Mainly, qualitative approach was the best methodology for the research. The research main tool in the case studies was interviews.

Chapter Four: Case Study

A project based organisation in Dubai Government is used as a case study. The case study chapter started with introduction and general information about the selected organisation. Then, the chapter focused on PPM, PMO, and Project management processes and practices.

Chapter Six: Analysis and Discussion

In this chapter the analysis is revealed based on interviews and the given information in the selected organisation. Then, the problems and findings that affect the efficiency of the PPM in the organisation are discussed.

Chapter Seven: Recommendation and Conclusion

Finally, recommendations were suggested based on the collected data from literature review, case studies findings and analysis & discussion. General and specific recommendations were introduced to increase the efficiency of PPM in the project based organization in Dubai Government. Eventually, suggestions for future research were introduced.

2. Literature Review

Introduction

As I mentioned earlier this research is conducted to discover what kind of problems that affect the project portfolio management efficiency, and before reviewing literatures about this issues, I should differentiate the terms Portfolio Management, Program Management and Project Management since there is vast misunderstanding and mixing up between these terms. To understand these terms and to distinguish between them precisely we should imagine the pyramid hierarchy. The top of this Pyramid is the portfolio management which consists of all programs and projects that aligned with the organization strategy and objectives, below that in the second level is the program management which consists of number of projects that related to each other and support a specific business objective, and the last level is the project management which can be part of the program as well as it is a part of the portfolio, project is concerned with implement the plan and deliver the capabilities, tasks and activities as planned in the program or portfolio, and each task has a beginning, a middle and an end which the manager should complete . (Projectsmart.co.uk)

2.2. Definition and Importance of the Project Portfolio Management

In the literature, there are different terms used to refer to PPM, they include programme management and multi-project management. Cooper, Edgett and Kleinshmidt (1999) defined the portfolio management as a continuous process where current programs are improved as new ones are developed. It offers a chance to have some projects in the beginning stage and others at maturity stage: what is very important is that all the projects can be operated at the same time without conflict of interest of one set than the other. Projects, which are interdependent, are managed together while those that are mutually exclusive are initiated at different times to enhance maximum utility of company's resources. When managing a portfolio, management should be open to consider and note changes brought about by varying factors affecting the business. Portfolio is faced with uncertainties, risks and changes in dynamic opportunities. Being open minded is a virtue in

project management that assists a manager to make strategic and responsive decisions based on reports from periodical reviews, performance of contrasting and interdependent projects.

While Dye and Pennypacker (1999) defined project portfolio appropriate strategies developed to ensure that scarce resources are utilized in their optimal state. They were of the opinion that the major role that portfolio manager should do is to allocate resources in an optimal combination. The success of a project is highly dependent on how resources have been distributed in the available options. An effective management will offer maximum results at minimal cost and less wastage. At any one, there are different areas that a company can invest its resources in, the major role that the manager should consider is the investment that will offer the company the highest return and probably the area that have minimal risk and is certain that there will be returns.

Archer and Ghasemzadeh (1999a, 1999b) explained the project portfolio as the resultant appraisable element that results from the performance of micro project in an organisation that aims at building to the whole. Turner and Muller (2003) had a similar opinion and suggested that every project has some small units that need to be managed rather separately but they have their goal aligned to the goal of the larger project. When managing a portfolio, the main area of concern should be the micro projects, as their full operation will have a direct effect on the project.

In whichever the portfolio that a company maintains, there are some underlying objectives that the company would like to attain; they include, add value to portfolio, align the portfolio goals and objectives to those of the company and diversify the available resources in an optimal manner. To have these core objectives attained project manager need to keep his portfolio active and conduct timely reviews to maintain its efficiency and continuity in the right way (Cooper, Edgett and Kleinschmidt, 1999)

Patrick Tickle, vice president of products for Planview, Inc. explains that the portfolio management as " it's about optimizing your business strategy against you two most precious fundamental resources: your people and your money." Lawrence S. Gould (2009)

Don Wessels (2007) had the opinion that when developing and designing a portfolio, measures should be taken to ensure that the project undertaken is the beneficial one; having the project at hand, then the role of project manager comes in to ensure that processes in the projects are operated in the right way. Through portfolio manager need to be involved in the initialisation stage of a project, the main task that befalls him is in the management of the portfolio; he must ensure that the portfolio is in line with the organisations expectations.

Cooper, Edgett and Kleinshmidt (2000) mentioned in their working paper no: nine emphasised the need to understand ones potential and aim at utilizing it to the best interest of the organisation. Both physical and human resources should be managed effectively in all projects so as the projects can be successful. How well a company managed its capital and human, other wise goes long way giving portfolios successes.

PPM allows the use of computer generated solutions to optimal allocation of resources; some programs that are designed to formulate optimal allocations, thus a portfolio manager should use such programs but not fully depend on them (Bruce Miller, 2002).

The importance of the PPM is derived from the importance of the corporate project management Governance. The following are the main objectives of Project portfolio management Governance:

- 1) To ensure that micro projects in the larger projects are effectively managed to expand the benefit of the projects' outcomes.
- 2) To ensure that a projects objectives are aligned with an organizations objectives (Tomas and Ralf, 2006)

In a given business environment, an organization can attain a competitive edge and several benefits by way of effectual PPM. According to Robert, Scott and Elko (1999), this can be achieved by aligning projects appropriately, distributing resources effectually and concentrating on sufficient projects even if there are limited resources available (Robert, Scott and Elko.1999). What's important here is how the PPM performance can be judged as efficient or not. Generally, the degrees in which PPM attains its objectives such as strategic alignment, balance across projects, and maximization of value can be one main measurement to show how effectually and PPM performs (Cooper et. ,1997a; cited at Ralf, Miia and Muller 2008). From studies it is clear that portfolio management is multi dimensional. Hence, the performance cannot be judged by its own performance. Overall, organizational performance should determine PPM efficiency (Ralf, Miia and Muller 2008). In a study paper by Robert, Scott and Elko (1999), connection and relation between portfolio level, business level, and product level performances was established. Therefore, the quality of PPM can be influenced by complicated variables. However, in many cases, successful management and performance of single projects do not translate into or ensure success at organization business levels (Perttu and Paivi 2005).

On the contrary, Mikkola (2001) has mentioned many advantages for using the portfolio management method and the way by which project managers can attain a successful portfolio. Accordingly, making decisions regarding the investment and designation of resources, prioritizing and selecting the project, connecting projects with business performance, pointing out gaps and future chances for growth is significant. Nevertheless, linking the objectives of all projects in the portfolio pipe with the portfolio's own objectives is the most significant element for portfolio management to attain success. Mikkola also states that the project manager is liable for this linking up whether in a direct or an indirect way (Mikkola, 2001).

A survey conducted by IRI members Portfolio management has reinforced the role played by PPM policies and suggested the following roles:

- 1) Financially – it maximums corporate returns from research and development projects
- 2) gives a company a competitive edge
- 3) an efficient tool in resources allocation
- 4) bridges the gap between project selection and business strategy
- 5) keeps a business focused
- 6) it is a tool for priority balancing
- 7) A tool of objectivity in project selection (Cooper, 1999)

2.3. Project Portfolio set up, Projects selection phases and processes and their impact on PPM efficiency

Few studies explore the linkage between strategy, project portfolio management and business success; however, Muller et al. (2008) showed a positive correlation between a project and the success of organizational objectives, mission, vision and goals. Further studies Have suggested that a project success is a product of project prioritization and initialization; if initialization was effectively done, then there are high chances that the project will be a success (Sascha Meskendahl, 2010).

The following figure 1 illustrates a general frame work of a portfolio, this framework is suggested by Sascha it is consisting of strategic orientation, project portfolio structuring, project portfolio success and business success.

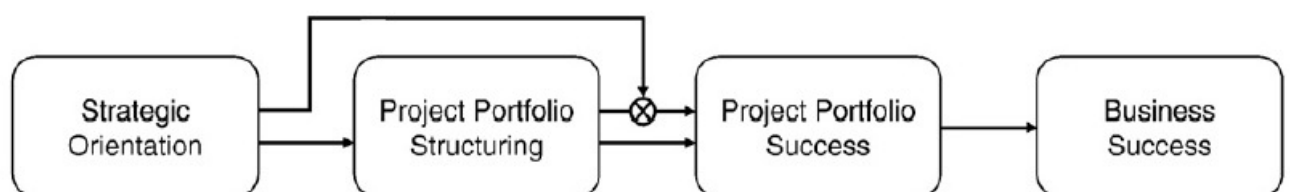


Figure 1: General framework (Sascha Meskendahl, 2010)

Artto K. L. (2001) observes PPM to be revolving around three main areas: portfolio evaluation, choosing the best alternative, and monitoring of the project. In either the stage/process, there are tools developed for the

same so as the right decision is made; an efficient portfolio selection, management and monitoring process look into the current, situation, the future tread and the likelihood that there will be occurrences that will make the project fail (Maio, Verganti and Corso, 1994). Portfolio management is not a onetime process; it goes along with the project until the end (Nkasu and Leung, 1997).

Initiation is the first stage in portfolio management, at this stage, the scope and nature of a project is determined; when the stage is not effectively done, chances that the project will not meet its proprietor's goals and objectives are minimal. At this stage, the project manager should ensure that he understands all underlying factors that are likely to affect the project, factors affecting a project may be positive or negative, and they may emanate from inside a company or be internal or external. The stage is more of a forecast and laying a plan that will be used in the future to see the project a success; the stage also involves taking an analysis of the current business situation and developing measure that can be used in making the project a success.. Archer and Ghasemzadeh (1999).

According to Kao, Brian, Dong and Ku (2006) the main objectives that a portfolio manager aims to get at this point are:

- Have a simultaneous projects running and at the same time have them managed effectively with available resources
- Avoid conflicts among different sectors of an organizational projects
- Manage and control the utilization of high value goods and put emphasis on the use of locally available resources.

For example, when the project on going, stopped, or de-prioritized or when selecting new projects , the recent schedule will become infeasible, in this respect, rather than a standing optimization issue, project portfolio scheduling (PPS) should be an immediate decision process, whereby the list of projects and the resources' allocation can be reviewed. Thus, an effective

Project portfolio scheduling system (PPSS) is essential to alter each project into an operating timetable and maintain the performance of the portfolio in a timely manner. Thus, the authors adopt an event-driven approach to develop a tradeoff decision framework for project portfolio scheduling and rescheduling as in the following figure.

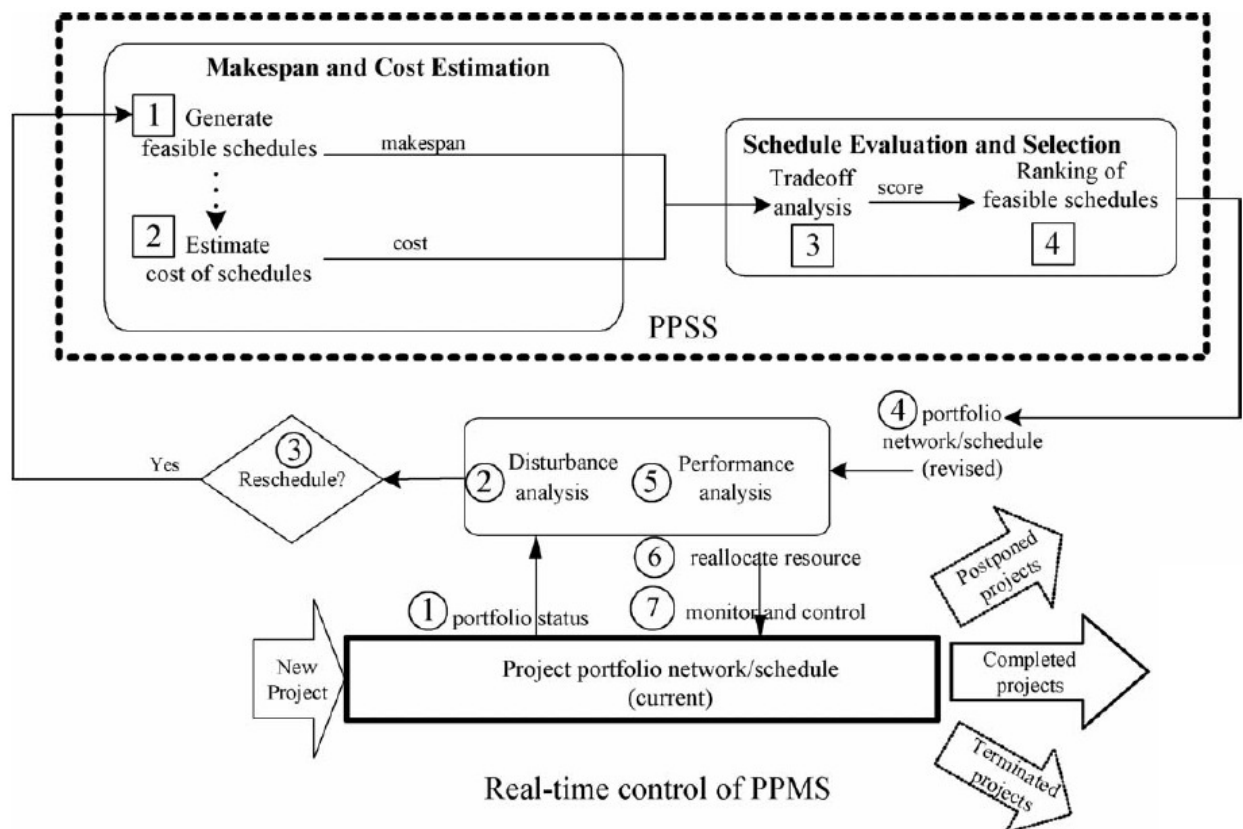


Figure 2: the event-driven procedure of project portfolio scheduling (Kao, Brian, Dong and Ku, 2006)

The process of a project starts from planning and ends with closure of the project after the goals set have been attained. Through different projects call for different approaches in management, the underlying concept is the same; it may be conducted differently but the results should be the same. (Archer and Ghasemzadeh, 1999)

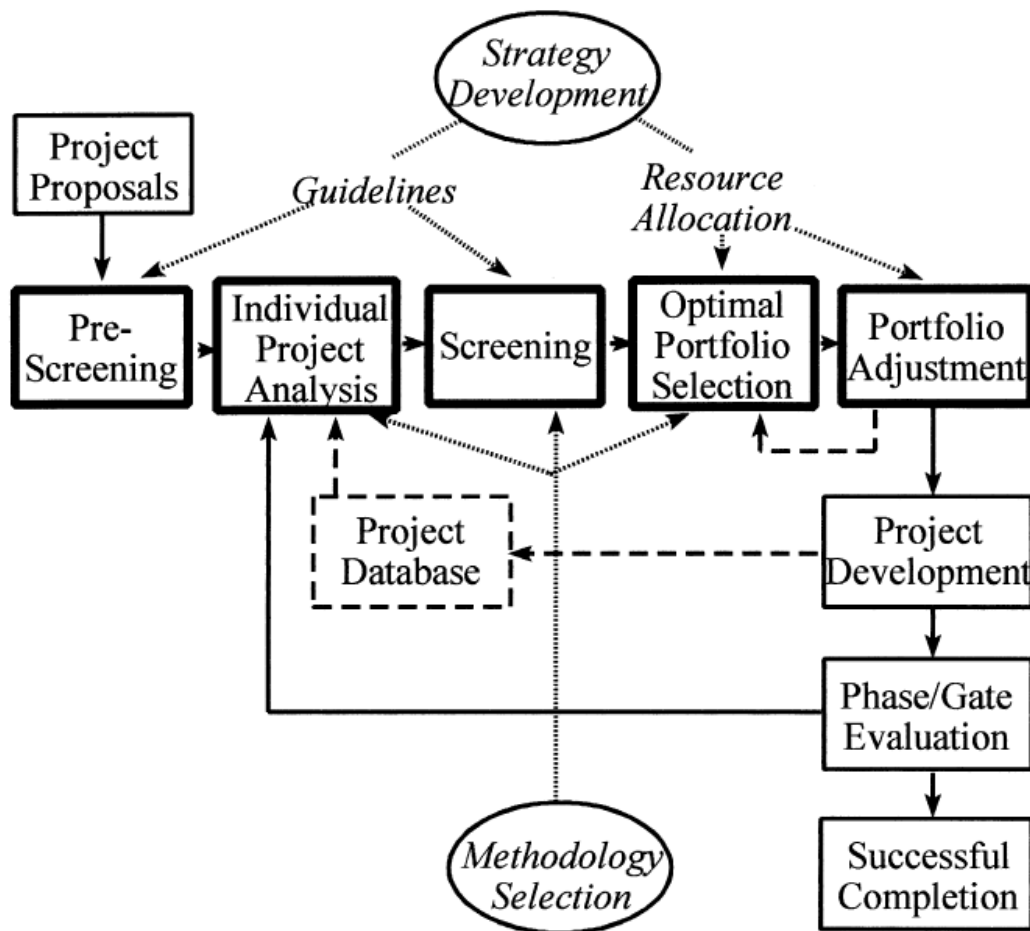


Figure 3: framework for project portfolio selection (Archer and Ghasemzadeh, 1999)

To have well planned portfolio, the organization should set up project management office (PMO) and managers of such PMO should aim to use available project analysis and scheduling tools such as Gantt chart and a budget bludgeon. When these tools are used, they assist a company keep track of the process of portfolio management and have regular evaluations. A successful project is one that aligns with a company strategy, has minimal. A study conducted by Jonathan Feldman, 2010, to study the reason behind setting up PMO, the results were 64% of respondents applauding the idea of prioritizing projects and 55% applauded project strategy development and 34% said to provide project feasibility to leaders. Less than a fourth of respondents see tracking project status and project costs as a top reason.

When undertaking a project, information about the prevailing conditions that might affect the project is crucial; there are many sources of information

that need to be considered, they include the project manager undertaking a survey of the market and the prevailing conditions, analysis government and other reputable institutions news and statistics or buying information from research institutions. Information must be credible and involves information on financing options available, sources of materials, labor and other input sources as well the risk of the project that is being implemented. (Robert, Scott, and Elko 2000).

There is a close relationship between the quality of information for project and the success of the project: when there is credible information, then the project is more likely to be a success (Miia and Paivi, 2007). Robert, Scott, and Elko (2000) brought about the theory of Stage Gate where information for every stage in a project is improved by accustomed research. Efficiency is improved through research and innovating of different ways of improving a certain project.

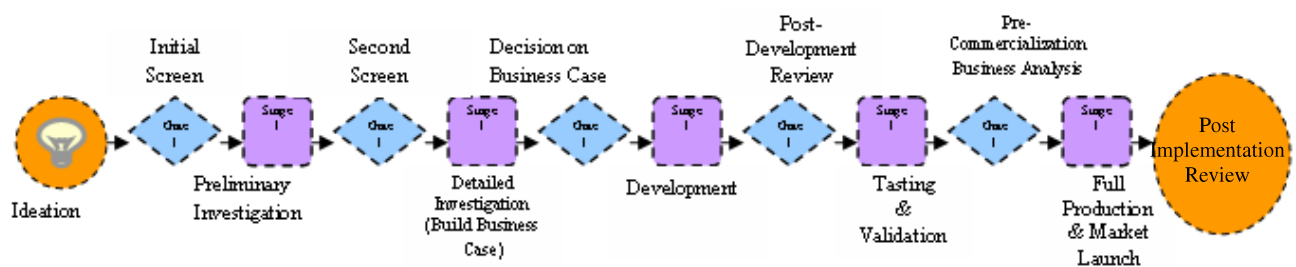


Figure 4. Stage gate information flow model (Robert, Scott and Elko, 2000)

Systematic decision making of project managers in major phrases and objective adherence, main objectives are time, cost, and quality, affects the success of a project through not direct. Miia and Paivi. (2007) observed that there exists a direct relationship between project management and PPM efficiency.

A stated by Adri, Harald and Spike (1994), communication in multi project organizations is crucial for ongoing activities in all phases, processes and levels.

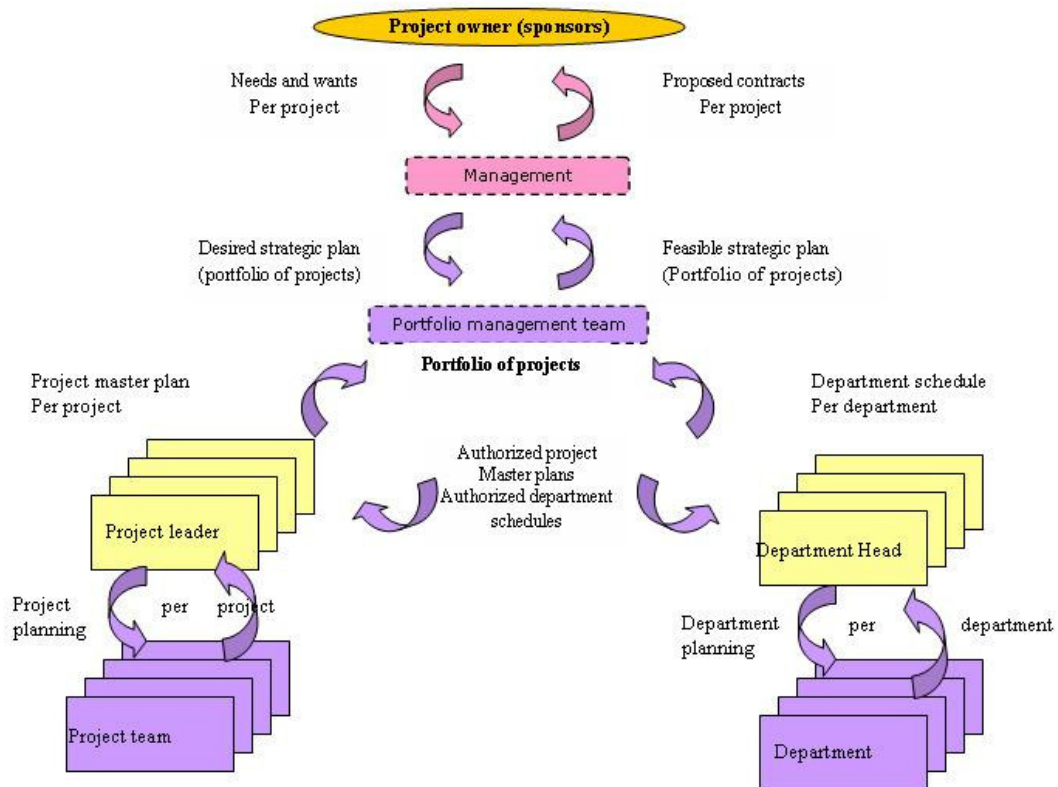


Figure 5: The communication flow importance in all phases and levels in multi project organization (Adri, Harald and Spike,1994).

The figure given above presents the significance of communication at all organizational levels and in the planning stages. The purpose of each planning cycle is to determine effective communication to succeeding organizational levels. Effectual communication contributes chiefly towards PPM, Project and department planning cycles. If planning cycle occurs at both project and portfolio levels, the results will be more optimal. In consequence, as mentioned by Adri, Harald and Spike (1994), by way of understanding and implementing the concept of portfolio thinking and efficacious communication, a great deal of progress can be attained. (Adri, Harald and Spike, 1994)

2.4. Problems in managing multiple projects

Existing research which conducted in development organisation had identified six problems in project selection and portfolio management which are: 1) no link between strategy and project selection. 2) Poor quality portfolio such as too many new weak product projects. 3) Reluctance to kill projects; refuse to stop poor projects in the middle of the implementation. 4) Scarce resources, too many projects on going for the available resource and inadequate balancing of resources. 5) Selecting short term and easy projects, traditional bottom-up identification of projects is often insufficient to ensure selection of the most important project and whether to spend the resource on it or not. 6) Lacking of quality of information. Managers confused with the amount of information available for decision making and might not be capable to recognize the significant information or realise the inaccuracy of information and estimates. Elonen and Artto (2003).

Gerald and Steven (2005) had identified in their study numerous problems in managing project portfolio and most of these problems were mentioned in the most literatures that concerned about issues in the project portfolio management such as: 1) the objectives of the projects in the portfolio are not aligned with the organisation's strategy. 2) Selecting wrong projects and keeping them alive and ongoing process without taking corrective action to stop them. 3) The portfolio contains a lot of ongoing projects that make the management of the portfolio fails to manage or track these projects.

On the other hand strategy-based portfolio management methodology and practices suggested that portfolio-level decisions should be performed at single-project level or through development process. Simply, the problem can be summarized as; when the project manager failed to manage the single project in terms of meeting its objectives and aligning it with business strategy, in return the redundant outcomes will expand from this single project level to the portfolio level. Martinsuo and Lehtonen (2007).

Logically speaking, PPM implementation faces several managerial problems. The areas of main concern were determined by Suvi and Karlos (2003) by way of examining two cases in PPM. Accordingly, the key areas of concern are:

- 1) Disputes with respect to matrix organization at 3%. This section deals with the influence of the functional organization and the management of cross organization.
- 2) Insufficient strategic planning accounting for 5%.
- 3) Meager flow of information at 6%.
- 4) Inappropriate portfolio level activities accounting for 16%. For instance, when project work overlaps in a portfolio, there is a lower degree of project boarder definition, debilitated decision making process, and absence of management commitment with respect to reviewing of project tasks.
- 5) Lack of commitment and responsibilities identification comes to 17%. To specify, there is absence of common data base for projects, well-defined duties for managers and their dedication in reviewing projects. Additionally, quick transformations in the organization with respect to responsibility structure, stress on managers due to heavy workload and pressure on managers because of operational duties, and lack of commitment of management in reviewing projects also count.
- 6) Inadequate resources and inappropriate designation results in 24 %. For instance, managers being overloaded with excess projects and responsibilities, rigid recourses and schedules, and lack of common database ends in overlaps and shortage of ways in which resources are designated.
- 7) Insufficient single projects activities and management account for 29% and they are the major causes of concern. To add to it, incorrect management practices related to planning, exercising control, supervising and reporting progress are also included. Besides that, as stated by Suvi and Karlos (2003), problems can also arise owing to very rigid resources, tight schedules, inappropriate standard of

subcontractor work and not paying enough attention to the pre-project phase plan. (Suvi, and Karlos 2003).

Although project management and PPM may be seen as different practices, this is only in theory, in practice they have very close relationship among them and they overlap in their objectives (Munns and Bjeirmi,1996). Both have their main objectives as seeing the success of a project despite their approach, as shown in figure 6.

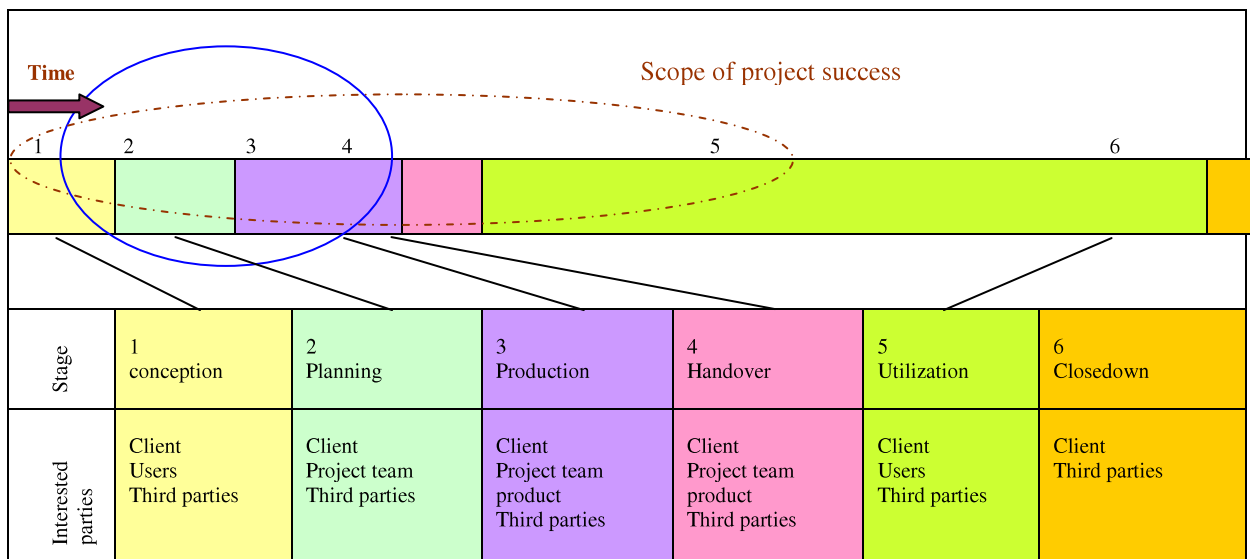


Figure6. The overlap between project and project management objectives (Munns & Bjeirmi,1996)

Meridith Lavinson (2010) had mentioned in his paper that there are a number of factors which determine either the success or failure of a project portfolio success and failure. Among these factors are schedules, assets and sources of funds. However, new-age project management analysis from training institution insights learning and a strategic execution consultant suggest that the primary factor determining a project success is the task's relation to the institution's business approach and the project manager's appreciation of how the task influences the development of the business strategy. This basically means that, the closely linked a project is to the business approach, the easier and more appreciable the progress. On the

other hand, the more tenuous the relationship between the project and chosen strategy, the more difficulties the project will have to go through.

Payne J. (1995) offers an even better viewpoint of these problems and in order to offer some guiding principles, an analysis of the popular and accessible literature was conducted. The information collected fell under a five-tier categorization framework. These five categories are: Capacity, Conflict, Context, Complexity and Commitment

Capacity refers to the ability of an enterprise to initiate and oversee the success of the multi-projects in order to come up with enough and more relevant resources. The author in this instance has come to the conclusion that a balance between the needed resources and resources supplied is only achieved in very few circumstances. It does not make economic sense for a company to have excess resources in terms of labor force idling around while still on the establishment's payroll. As a result of this, dedicated efforts should be made to cut down the number of staffs and manage those persons retained in a more effective and less costly manner. Unfortunately, this form of discriminate retrenchment is associated with sessions of under capacity occasioned by increased workloads. This scenario is occasioned by management insisting on taking up all available opportunities without factoring in the company's capabilities. Spuher and Biaggini (1990) supports this latter fact by stating that it is almost impossible to find a company which shies away from taking up more projects just because it cannot complete them using the available resources.

Payne, J (1993) established a categorical distinguishing of elements of the conflict by placing them under three subdivisions. These are staffing, infrastructural and organizational issues. Conflicts tend to come up in the unstable relationships emanating around a multi-project set up. If the individual in particular specialist role is constantly being replaced because of fluctuations in the levels of the needed resources, there is a possibility that the new staffs will be required to constantly assess and modify the work done by his/her predecessors. This mainly happens because of certain inadequacies

in the proper institutional management. The author has attested to witnessing this on more than a few occasions. In one instance the individual in a certain engineering specialist role was replaced thrice, and each of the new staffs ended up editing the work done by the individuals who occupied the same position before. This in turn had the negative effect of causing delays and substantial non-cooperation from the other members of staff whose jobs are affected by the modification of the design or the delays caused, or both. This ineffectiveness was to a great extent linked to a lack of proper exercise of authority on the part functional manager regarding the performance of the task. In this particular instance, the functional manager and the project manager did not gel effectively, resulting in a personal tension which ended up toughening the flow and execution of instructions, with the functional manager not making any response to the project manager's complaints. The project manager had to share some of the blame because he did not ask for assistance. Peer rivalry amongst a group of functional specialists almost always ends up causing definite conflicts. The most distinguishable causes of systems conflicts are the protocol structure and the job scheduling procedure. These elements are also influenced by the appreciation of the necessity of the project.

Commitment is basically the dedication to individual projects of the individuals or groups of individuals working on, or controlling the flow of resources to, the various tasks. The topic has some definite importance on itself but it mainly makes sense in the light of the multi-project context. The extent of a project usually plays a role in the determinations of its perceived relevance. Commitment is relative to perceived importance. It is appropriate to direct the emphasis further from size of the project and focus it on the objectives of the organization. The size of the establishment actually has some influence on the commitment. A member of a small organization is likely to be subject to the moral pressures not to disappoint his/her colleagues as compared to his/her counterpart from a large institution.

The resource providers, also known as functional managers, need to clearly establish both the level and type of commitment required for the project. This could be defined by the provision of resources for the tasks or by shouldering

responsibility for the project. As far as the individual is concerned, the type of commitment is also has some critical relevance

Context is basically the elements surrounding the development of a project, such as cultures, traditions and practices of groups or societal set ups. Context can also be described from the direction of staffing issues, infrastructural issues, and institutional issues. The culture of an expansive task or process is categorically distinguishable from the culture of comparatively smaller projects. This is something that can be attested to by any individual who has worked in a variety of different-sized enterprises. The committed hierarchical organizational structure which is in most instance linked to large tasks, or institutions, tends to come with a stable culture, while the multi project culture, on the other hand, is constantly undergoing changes. Senior administrative influence has an appreciable impact on the context. A specialist resource provider, linked to a small task, tends to lack the necessary direct contact with peers which make the setting interesting to work on. The multi-project on its part has a number of managers working concurrently, alongside functional managers which makes the task comfortable. The career structuring and development that are required in different situations also exhibit some differences.

Complexity mainly refers to those elements that are linked to multiple interfaces between the tasks, the institution, the relevant authorities etc. It is also directly linked to the directive approaches utilized by management, and options pertaining to the extent to which the amalgamation of the multiple tasks is either desirable or applicable.

The problem is in most instances not related to the project management, but instead the management of the entire portfolio. The bottom line is that some organizations can't do portfolio management by themselves. It must be accomplished with the participation of both executive (who must understand and accept that resources are constrained) and the portfolio managers (who must appreciate that there are other projects competing for resources and which help distinguish the priorities).

Even if a team is able to achieve cooperation from senior administration and business partners, and there are systems in place for displaying the project portfolio, they (senior management) should not be expected to accept long project delays any more than an individual would appreciate a nine hour airport delay (Wittmann 2010).

However, in some tasks the objectives and/or the strategies for their attainment are not well defined at the beginning of the implementation phases. Projects can be defined by analyzing them against two definers: How properly defined are the targets, and how well defined are the strategies. The ensuing two by-two matrix relates to four kinds of tasks/projects:

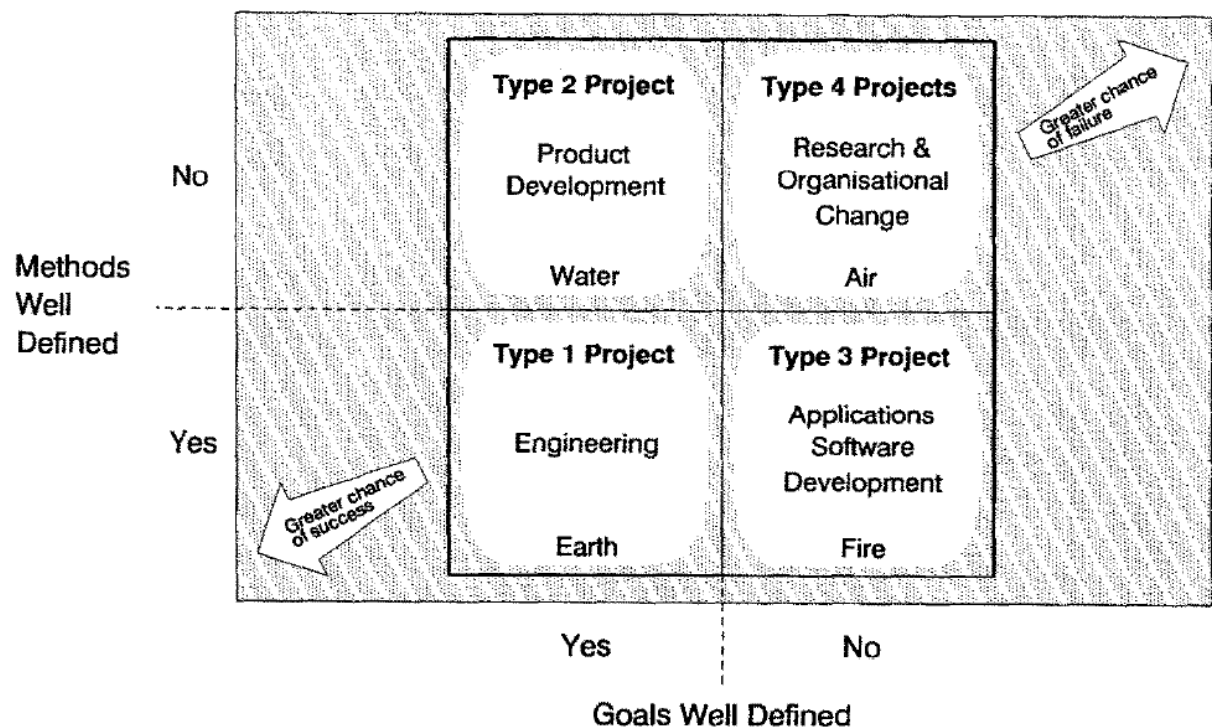


Figure 7: Goals and achievement strategies matrix (J R Turner and R A Cochrane 1993)

- Type-1 projects: tasks for which goals and strategies for achieving the tasks are clearly laid down
- Type-2 projects: tasks for which goals are clearly laid down but the strategies for achieving them are not.
- Type-3 projects: tasks for which goals are not clearly laid down but the strategies for achieving them are.

- Type-4 projects: tasks for which neither the goals nor the strategies for achieving them are clearly defined (Turner and Cochrane 1993)

To improve the organization and efficacy, many institutions tend to adopt multiple project management (MPM) strategies. A popular way for doing this is to have one project manager head multiple concurrent projects, which are described as the management of an integration of multiple projects (MGMP):

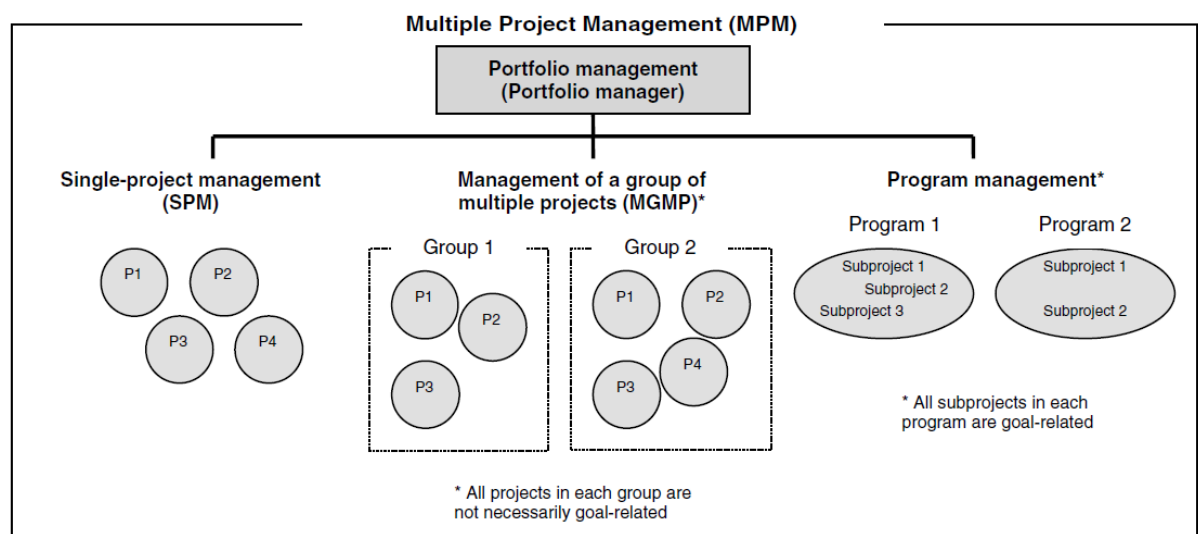


Figure 8: An example of a multiple-project management setup in one institution (Patanakul and milosevic, 2009)

Ideally, the issues look at interactions between the groups of multiple projects and their organizational environment as being important for effectively managing multiple projects. Such issues are related with the need for achievable portfolio management, sometimes in relation with appropriate project selection, establishment of priorities, and allocation of resources. For effectiveness in extremely competitive businesses, it is imperative that an institution undertaking multiple projects have the potential to provide both sufficient and relevant resources. In doing so, the enterprise should utilize a rigorous, well defined and formal projects selection framework (Fricke E. and Shenhar J., 2000)

Tasks should be differentiated depending on their importance to the institution's business criteria, the relevance of the size of the project, the timing and the technical workability, the financial viability and so on and so forth. Along the same line, Payne (1995) and Adler (1996) insisted that it is very inappropriate for an organization to implement more projects that can be handled by the available resources.

According to Patanakul and Milosevic (2009), after the selection process, another challenging task of managers in Multiple project management (MPM) environments lies on the assignment of projects to multi-project managers.

Kuprenas (2000) suggested that effectiveness in the management of a number of concurrent projects (MGMP) is dependent upon the number of projects that a multiple-project manager operates at any given time. In the development of support structures, a study revealed that assigning two to three major tasks to an engineering project manager will effectively maximize his/her productivity.

Pertaining to the assignment process, Patanakul (2006, 2007) concluded that a proper assignment process should comprise steps aimed at the understanding of project priority, development of linkages between the strengths of multiple project managers and project demands, and the categorization of the institutional/personal weaknesses.

Aside from project manager assignment, the distribution of resources also comes along as a challenge to management. A number of studies came up with tools and approaches for guiding the process of scarce resource allocation, which comprised of integer programming, heuristic methods, queuing theory, etc. (Lenvy 1997, Dean 1992, and Hendriks 1999). However, such approaches were fronted for utilization at a functional level. In this instance these referred to the distribution of functional resources over a number of projects. Because they were not meant for MGMP settings, these

strategies may not apply to an operational level for a multiple project manager to use in the distribution of resource over a number of projects in his/her team.

According to Abdul-rahman, Takim and Min (2009) delay refers to a time overrun to either go past the original date of the contract or beyond the time that the parties had settled on for the conclusion of a project (Lo et al, 2006). Delay can be seen in most construction projects and its duration varies to a large extent depending on the needs of the project. Some tasks can be a few days behind schedule while others can delay by over a whole year (Ahmed et al, 2003). In construction, delay is outlined in contract or past the agreed date for completion of a task amongst the concerned parties (Assaf and Al-Hajji, 2006). Sambasivan and Soon (2007) established 28 recognizable and well appreciated delay causatives in construction and classified them under eight major distinctions. These classifications are: customer-related elements, developer-related elements, consultant-related elements, supplies-related factors, workforce and machinery-related elements, finances-related elements, agreement-related elements and external factors. From these categories the finances-related element is one of the most common factors that bring about delays in construction tasks (Alaghbari et al, 2007). Financial challenges experienced by many contractors result in delays in construction tasks. This is because of the numerous modifications that are made by project customers in the construction process. Consequently, it results in an increase in construction costs because the contractors are forced to use means beyond their abilities to acquire the material and equipment needed. In addition to this, delays in offering payments to contractors tend to interfere with contractor's flow of resources. A delay in payment is effectively linked to slow progress on site, because most sub-contractors and suppliers go through financial strains hence, the required materials are not delivered to the site on time.

Table 1: Potential causes of financial-related challenges

Category	Sub-categories
Delayed Payment	<ul style="list-style-type: none"> • Customer's inefficiency in financial and business management • Withholding of remittances by client • Contractor's illegal claim • Lateness in valuation and accreditation of interim payment by consultant • Inaccuracy in the valuation of tasks completed • Improper documentation and supply of data for valuation • Participation of many individuals in the process of offering credibility to certificates • Too much consultant work in the evaluation and valuation process
Poor finances management	<ul style="list-style-type: none"> • Developer takes too many concurrent projects • Contractor's financial background instability • Contractor mis-approximating the cost of the project • Improper prediction of cash flow regularity • Poor credit management • Capital mis-appropriation
Insufficient finances	<ul style="list-style-type: none"> • Challenges in obtaining loans from financiers • Lack of government budget allotment
Financial market instability	<ul style="list-style-type: none"> • Increase in interest rate in for loans • Inflation (material costs, labour costs, transportation charges) • Increase in currency exchange rate for imported materials and equipment

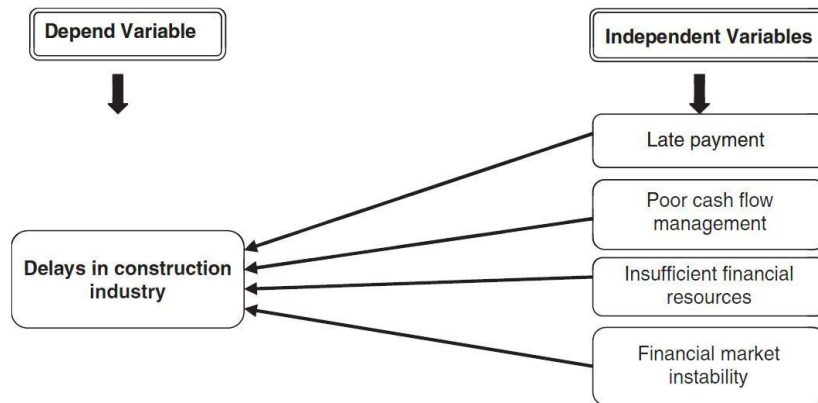


Figure 9: Relationship between dependent and independent variables (Abdul-Rahman, Takim and Min, 2009)

The figure 9 is a description of how dependent and independent variables are linked to each other. It suggests that the finance-related challenges causing delays in construction tasks are mainly as a result of four primary reasons. These reasons are: Delayed payment, uncontrolled cash-flow, insufficient financial requirements and instability the financial market.

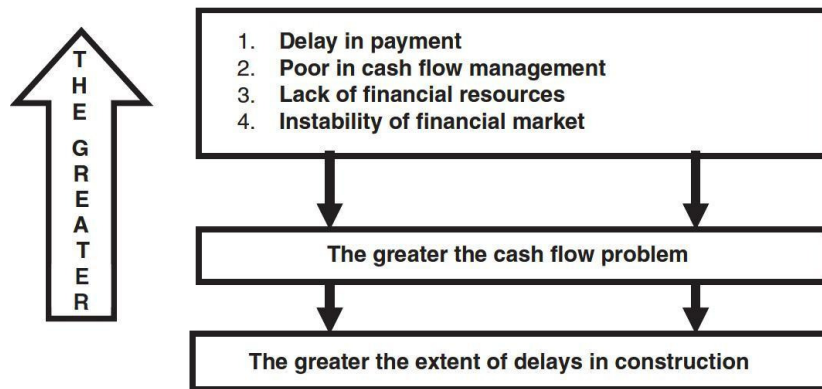
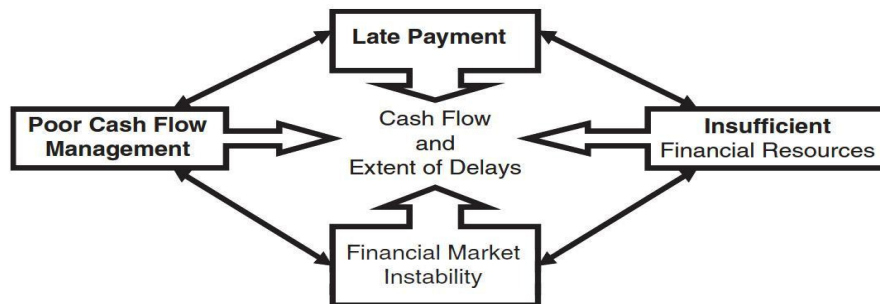


Figure 10: Relationship between main problem and sub-problems (Abdul-Rahman, Takim and Min, 2009)

The illustration above presents the suggestions with the direct relationship between the principle problem and sub-problems. The propositions for the sub-problems can be assessed in the summary below:

- The more the delay in payment owed to a contractor, the more the cash-flow challenges and therefore the greater the length of the delays.
- The poorer the management of the flow of cash, the more the cash flow challenges and therefore the greater the length of the delays.
- The more the unavailability of finances, the more the cash-flow issues, and therefore the greater the length of the delays.
- The more the instability in financial markets, the more the cash-flow challenges, and therefore the greater the length of the delays.



Figures 11: Inter-relationship between independent variables (Abdul-Rahman, Takim and Min, 2009)

The above figure shows the suggestions establishing the direct relationship between general problem and sub-issues. For example, poor cash-flow managerial tactics by the customer of a construction task may end up resulting in delayed payments to the contractor. Lateness in payment for work completed will in turn cause problems in the cash-flow framework of the contractor.

According to Angling (1985) resources can be defined as those components that utilized by a task during its implementation. Examples of these resources are manpower, finance, time, plant and machinery, materials and computer. A project can be defined as a set of actions that utilize resources with visibly defined start and finish point and produce the end product. All types of organisations are involved in projects of one type or different types at one time. The number of projects could be large or small as well as the size of each project. Most projects will need to be analysed to determine whether they should proceed or stop and how they should be prioritized among other projects in terms of limited resources.

A study was conducted on two organisations and the findings indicated that there is common issue in both organisations which is resource allocation

pattern. The portfolio management was full of issues pertaining to the establishment of a protocol between tasks and, allocation of duties to staffs from one task to another and the search for material requirements. In addition to this, when resources were re-channelled to other sections it the result was harmful effects on other tasks within the portfolio. This ended up causing the administrative authorities to go through wrangles and unending conflicts during the implementation of various tasks. However, the main influence for portfolio management which also affects the development of an already established project was the re-distribution of resources. The study's findings verified the full image in literature of the complexity of planning, scheduling, and allocating resources between different, concurrently ongoing projects (Engwall and Jerbrant 2003).

Blichfeldt and Eskerod (2008) demonstrated the findings of empirical study that have been conducted on 30 companies, and the most remarkable finding is that most of the companies are suffering from performing too many projects while they suffering from lack of resources. The projects managers are facing a battle of resources; they have a lot more projects than they able to work on. In addition to that they do not have enough people to do the work. Although most of companies greatly involved in project management and project portfolio management but have not overcome the resources crisis for projects because the PPM list a lot of different projects and the top management does not aware of all these projects in turn they spend many resources on some projects and fail to allocate the resources to other projects.

Elonen and Artto (2003) believed that resource shortage and allocating resources improperly has a vital impact on the project portfolio management. When the projects is not planned properly, and go decision is made on a project without considering available resources precisely, in turn this affect the entire project portfolio in term of prioritizing the projects. Moreover, few experts are responsible for too many tasks in too many projects, which make them incapable to handle the workload. In most of the projects in the portfolio the personnel competencies are not managed properly, which affect the entire

PPM performance. The top management is reluctant to stop any ongoing projects when they discover they can not reach the objectives of the projects, because they consider the stoppage of the projects as a management failure. Researchers and practitioners considered that the human resources are the most important factor in successful projects, and have a direct link to PPM performance. In the development institutions human experience is the most needed and most rare resource. Proper distribution the right manpower to a project is very important. The management meets challenges in the allocation process if there are more projects in his/her tab and they all require very specific knowledge (Hendriks, Voeten and Kroep 1999)

Cooper (1999) declared in his study that there are very many tasks being carried out and but there is a deficit in the amount of resources to ensure that they are carried out well. This is a global challenge within organisations focussing on development. The need for additional new projects coupled with corporate restructuring has to some extent come along to deal with this resource shortage.

In an effective PPM project, communication is important among the players and the management; incase there are emerging issues; they should be addressed accordingly. Some of the major barriers to effective communication are team players, leaders and organizational culture adopted in the project. (Kelly, 2000).

The Project Managers should convey their knowledge to the staff effectively, if they fail to communicate with the employees that might affect the projects negatively. To develop effective communication, the input of team leader and top management need to be in the forefront creating a favorable environment of sharing information among the team members. They should develop mechanisms for effective communication. Language and the relationship that managers have with their juniors determine if they will have good communication or not (Brownell, 2003).

Communication comes with listening skills; when teams are able to listen to each other, they sharpen their skills and make their work simpler and

the attainment of organizational goals is affected. Bambacas and Partisan (2008) were of the opinion that talents, intellectualism and professionalism in a team can only be tapped when there is good communication among the members and it increase the commitment of the employees..

2.5 Solutions, techniques and methods to increase the efficiency of PPM

To have an effective implementation of projects and management of PPM programs, top management, middle level managers and supervisors must support the idea. The entire organization need to be working for the good of the project implemented and any individual or group that can offer insight information should be considered. Since different projects calls for different combination of talents, experiences, age and education level, the most important role that managers should be playing is ensuring they have blend their team to its optimal level.

Secondly, management should realize that the success of a project mostly is determined by the planning, research and data that the management has, there should be no project that should be implemented without proper planning and researching (Bodily and Pernille, 2008). When well planned, then the project will have adequate resources, knowledge and appropriate information for the completion of the project is available. According to PMP website, implementation of a project is the last stage in a project management; it should a stage that is implemented when its preceding stages are a success, in any case that the preceding stages are not effectively conducted, then this stage will also be affected negatively. Time is a resource that need to be utilized effectively and should be allocated adequately not to the project itself, but also to initial stages of a project.

To create competitiveness and encourage efficiency; organizations are considering project management department as unit of its own with the role of overseeing projects in the organization. On the other hand, The organization should offer training programs for the project managers as well as encourage them to get professional certificates in the same fields such as Project management professional (PMP). Modern education systems are having project management as a full course in their efforts to produce graduates who meet current labor markets needs. (PMP website).

Stamelos and Angelis (2001) illustrated that a common activity in the fundamental phases of a project is the estimation of the required task development resources (cost) and time. The three primary criteria for managing instabilities in task portfolio cost approximation are professional estimation, approximation by analogy and algorithm cost approximation. Professional judgment is dependent on the cumulative experience of a group of experts. Shepperd (1997) defined the approximation by analogy strategy as a process of establishing comparisons between the software tasks under consideration with a number of already-completed similar projects. Finally, the algorithmic cost approximation approach requires the input of a cost model, i.e. a number of mathematical formulae which, basically, have been arrived at by utilizing methods of statistical data evaluation.

Most institutions, whether in the private or the public sector, actively participate in developmental projects. The number of tasks per organization may be many or few depending on the size of the organization. Most projects require a process of analysis and evaluation to establish whether or not they are viable and how they compare in terms of priority to other projects when the provided resources cannot fully sustain all of them. Traditional cost-benefit analysis can provide an economic assessment of projects, but because it is time consuming and costly to conduct, it is normally only used on large projects. Alternative methods that are relatively inexpensive and easy to use are available for assessing the relative priority of projects. Where a number of projects of a similar nature are to be compared, it is possible to identify a common factor in each that will enable the projects to be ranked in order of priority. However, the common factor should be chosen with care to ensure that it actually reflects the objectives of the organization (Michael Angling 1985)

Based on the findings of the research, we have come up with a framework for establishing the efficacy levels in MGMP, structured around the determining elements and approximation criteria.

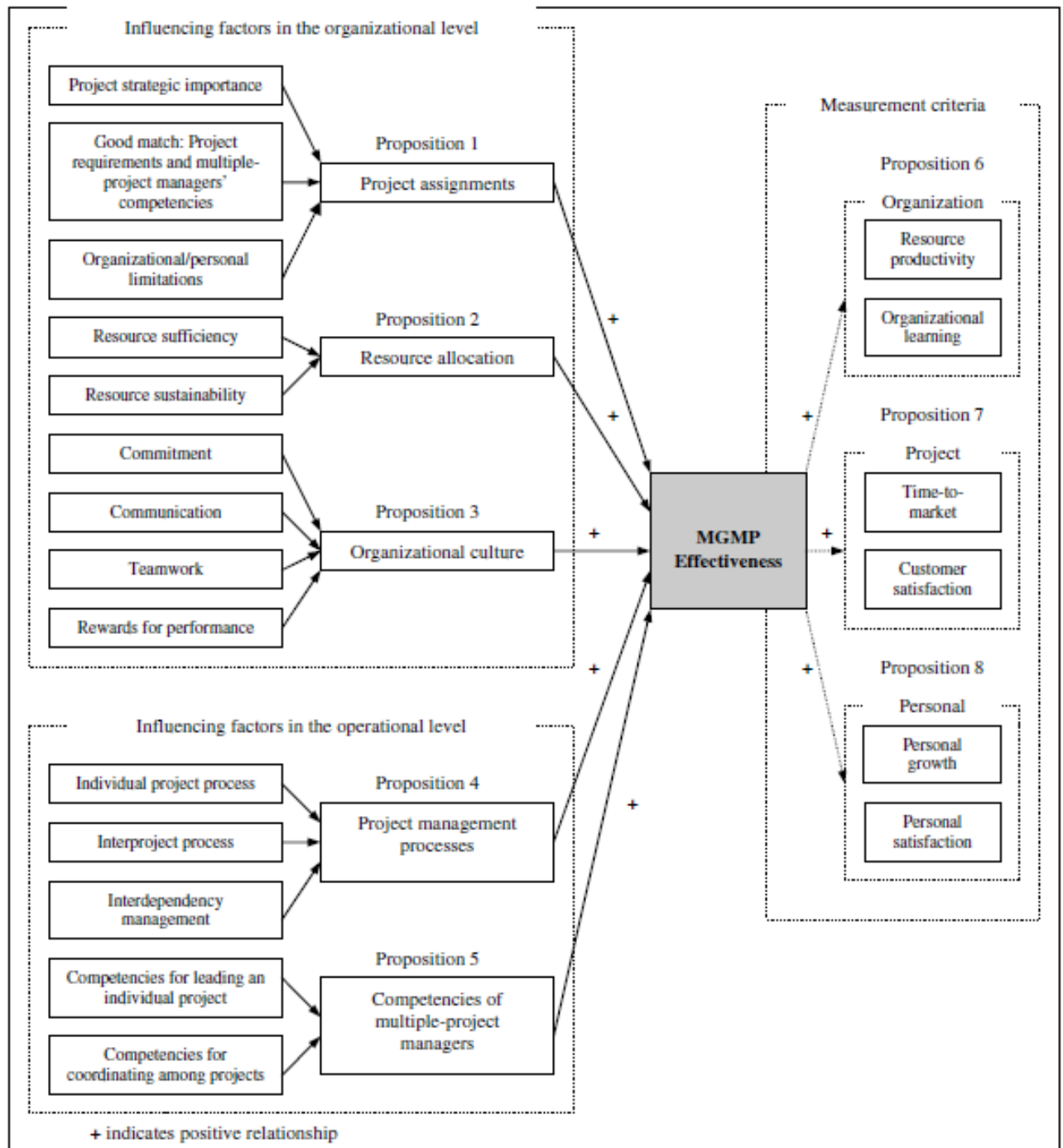


Figure 12: A framework for determining the efficiency levels in the management of a number of concurrent projects (Patanakul and milosevic, 2009)

In order to attain efficiency in the management of a number of concurrent tasks, all multiple-project managers and their junior associates in our study came to the agreement that the support from their parent institution has a significant impact. This support can be described in terms of task

assignment, resource distribution, and institutional culture. First and foremost, the efficiency in MGMP lies in the achievability of the assignment (proposition 1). Such tasks should factor in the strategic relevance of the project, the ideal match between project requirements and effectiveness of the multi-project manager, and some other elements like the time available. Consequently, a critical project will be given to the project manager with the appropriate skills and time to effectively complete it. Secondly, it is necessary that the available resources be distributed properly (proposition 2). Proper allocation is linked to the sufficiency and sustainability of resources, hence supporting the maintenance of continuity in the project. Third, the most efficient MGMP requires an organisational culture which enhances commitment, communication, team-work, and appreciation of desired performance. This type of organizational culture provides the basic ground rules for the task, resulting in effectiveness of the concerned parties (proposition 3).

It is not just the institutional backing that is important for MGMP effectiveness in the functional level. All collected evidence guided the conclusion that understanding the procedures involved in relation to MGMP and having credible multiple-project managers are also determinants of the efficiency in MGMP. With respect to the project management strategies, aside from managing each individual project procedure just like in basic project management, MGMP has to have structured method of managing inter-task frameworks and role inter-dependency (proposition 4). Having multi-project managers with the professional ability for guiding each individual project and coordination of relations among projects are also important criteria for the attainment of MGMP efficiency (proposition 5). Such administrators need to have various credibility enhancing elements such as managerial competencies, commercial competencies, interdependency administration, multi-tasking, and leadership.

When asked about the determinants used for estimating the MGMP effectiveness, a case informant proposed that at the institutional level, the general effectiveness of MGMP needs to be assessed with the consideration of input productivity and institutional learning (proposition 6). Pertaining to

task success indices, time-to-market and client satisfaction need to be emphasized (proposition 7). Personal growth and satisfaction are also appreciated as proper measures of effectiveness in MGMP at a personal project level (proposition 8). At this instance, the main intention was to suggest a strategy that could be used to develop a clear illustration of the main issues influencing the effectiveness of MGMP (Patanakul and Milosevic 2009)

We propose the heuristic approach depicted in figure 13. Individual tasks are basically classified without regarding the input constraints; then resource strain is appreciated and a basic hypothesis of the project portfolio is identified. Subsequently, a multi-project portfolio analysis is done in order to appreciate the challenging interactions that come between tasks at portfolio level, affecting both the appropriateness and the risk of the general portfolio until the ensuing result is considered satisfactory, measures for improvement are implemented that may either influence the institutions as an entity or on individual tasks. Projects are then studied again and a new portfolio is identified. Once an amicable situation is arrived at, the strategy is compiled as one whole entity and then distributed to follow up procedure for further detailed task evaluation. At the task execution level, projects are analysed and, when some appropriate changes are made, a re-classification for a new loop of multi-project management. (Maio, Verganti, Corso, 1994)

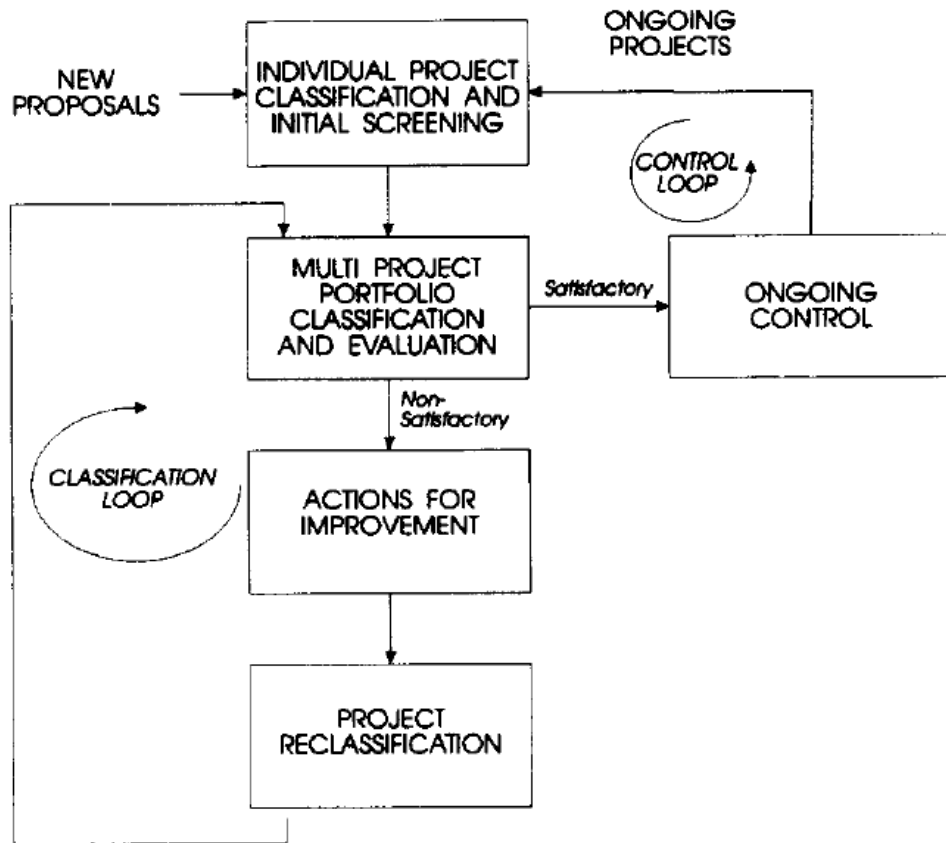


Figure 13: Heuristic approach to multi project management (Maio, Verganti, Corso, 1994)

The inception point of the suggested model is the evaluation of individual tasks in terms of importance, risks and the requirement of critical-resource input. The analysis of the above three variables is however not just targeted at distinguishing the most appropriate tasks; from a PM viewpoint the main reason for this is the identification of the most relevant strategy and, in relation to the anticipated critical issues, to establish both assessment and control systems for the task. Depending on their appropriateness, risks-involved and the resources needed, projects can be distinguished by different institutions such as functional matrix or task force (Larson and Gobeli, 1987).

During the last years several scholars wrote on the topic of resource-allocation for projects. In 1994 a 'rough-cut-project-and-portfolio-planning' was published by Platje et al (1994). In this method the planning and control cycle for single projects level and projects portfolio level is made (figure 14)

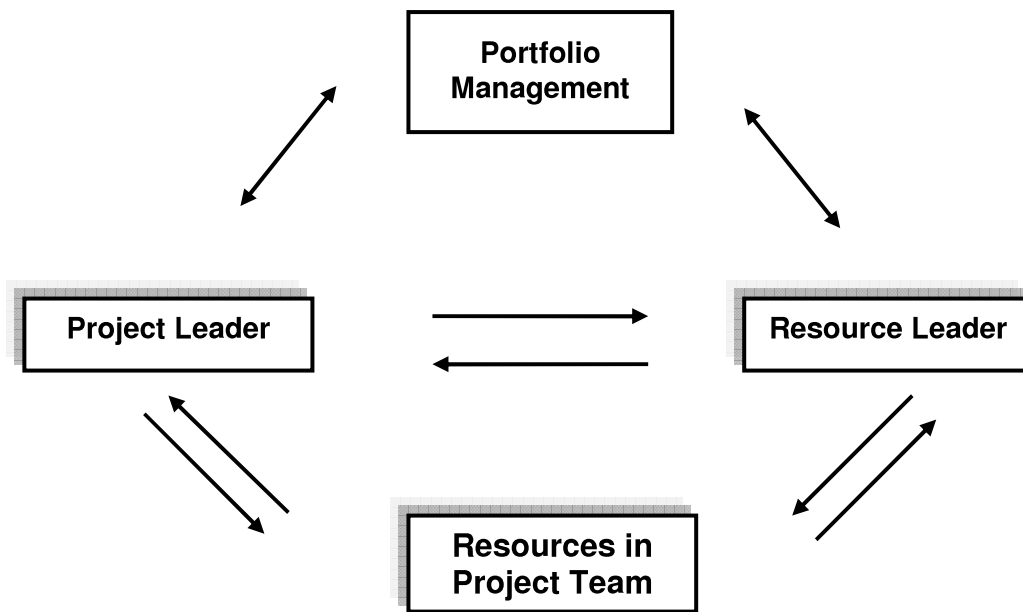


Figure 14: Portfolio planning procedure in multi-project organization (Platje et al 1994).

This concept was implemented and tested in a small R&D organisation which grew quickly towards 200 professionals in 80 different projects. The allocation process was designed in such a way that periodically checking of an inventory on a projected project portfolio by using simple 'resource claim' and 'resource-offer' spreadsheets (see figure 15). This provided a rapid and overall overview of the demanded project portfolio. Each claim and each offer was made clear by a percentage of resources needed for the next period. The projects leader and the group leader all together discuss the claims. By implementing this concept the project leaders contact directly the group leaders in a controlled way. Also management was obligated to decide on what projects were positioned in the portfolio and a decision on the allocation of the resources. Without this tool the decisions on the portfolio can be delayed or made too late and due to the daily stress often no time was left for a hard resources discussion between project leaders and group leaders (Hendriks, Voeten and Kroep 1999).

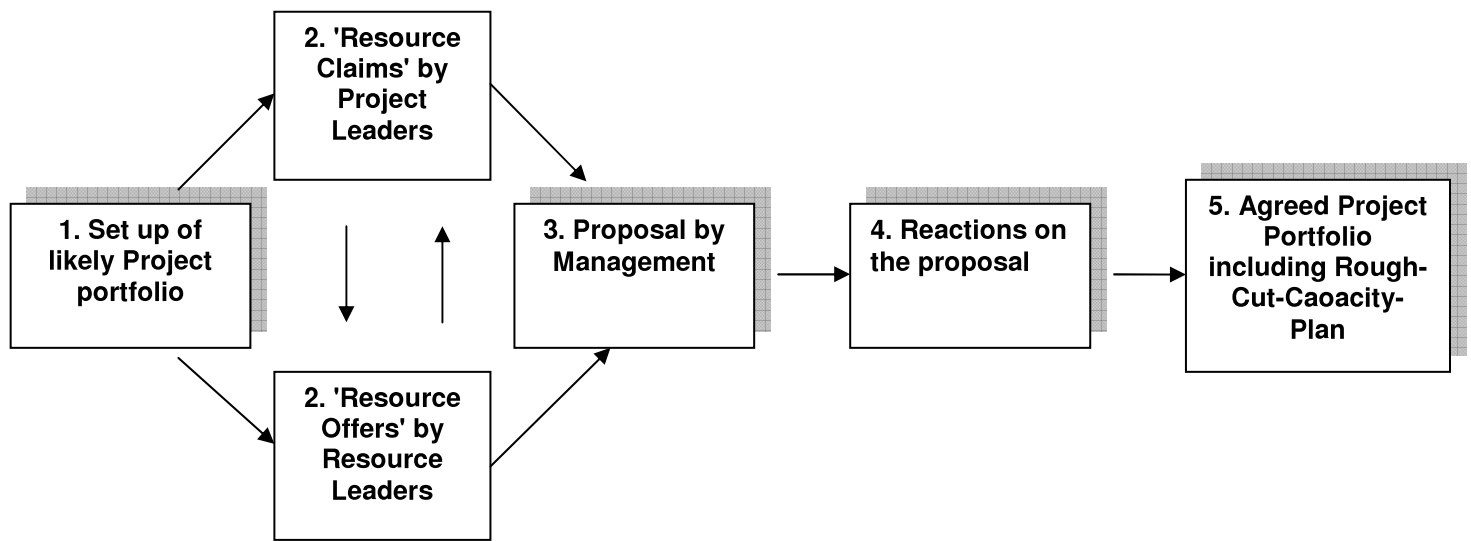


Figure 15: Flow resource allocation (*Hendriks, Voeten and Kroep 1999*).

Most of the project portfolios constitute of repetitive projects that require the manpower to repeat the same activities with the similar materials in different projects and locations. Hence, the manpower play a main factor in the improvement of the productivity and the accomplishment of the projects, the planning and scheduling methods focus on exploiting team work continuity. Team work continuity enables each team to finish the activity in one location and move to the next order to minimize work stoppages. Applying this concept lead to improve overall efficiency of the PPM, many researches had studied the influence of the team work continuity on the planning and scheduling of repetitive projects. Efficient planning and scheduling of exploiting resources in the repetitive projects can lead to minimize the lead time of the subsequent projects and improve the overall PPM efficiency (Hyari and El-Reyas 2006).

3. The Conceptual Framework

PPM efficiency can be defined as the maximum degree to which the collection of projects together as a portfolio can meet the portfolio objectives successfully, in condition that the objectives should be strategic and reach maximum value of the portfolio. Moreover, there is strong linkage between the efficiency of PPM and the resources management. Moreover, PPM focuses on doing the right work so it facilitate the organization to focus on selecting their projects based on their importance and priority, and delivering those selective projects efficiently within planned time and budget.

Basically PPM ensuring that business has a balanced stream of giant projects and it is about strategy; it is a method by which the management will meet the business's strategy.

From the literature review, preliminary conceptual framework constructed in order to have road map to investigate the problems that affect the efficiency of PPM, apparently from the conceptual framework the quality of PPM is influenced by complicated variables, as shown in Figure 16.

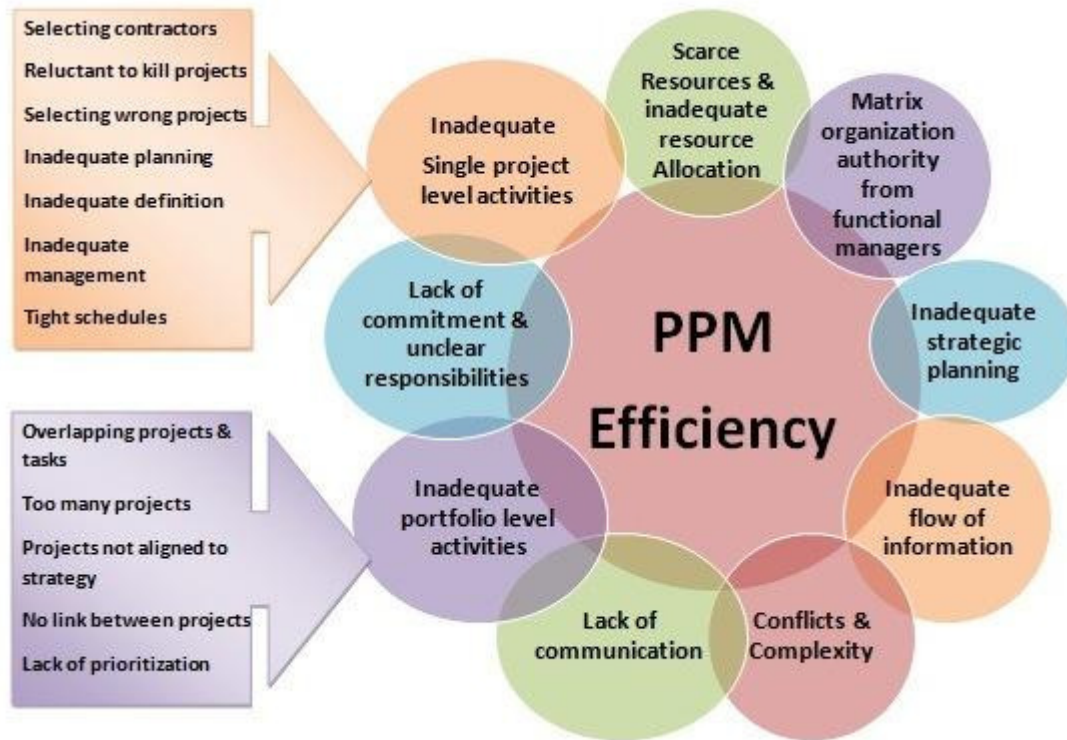


Figure 16: the conceptual Framework

The first objective of this research is to define the importance of PPM to corporate and project success. from the literature review we can understand that PPM is considered effective and efficient if the objectives of the r Projects are linked to expand the benefit of the project's outcomes which resulted in achieving the PPM objectives. Moreover, if the objectives and the outcomes of the projects are set properly in order to achieve the entire organization success.

In other words the efficiency of PPM can be achieved if it reaches its objectives by strategic alignment, balancing in portfolio, and maximizing of value. This will lead us to the core of the conceptual framework which is PPM efficiency measurements. Such measures can tell the organization how their PPM is effective and efficient.

The second objective of this research is to identify problems in managing multiple projects that may affect PPM efficiency. Hence, the aim is to identify the problems that have direct or indirect relation with PPM efficiency. Many

issues determined in literature review part (2.3), which was taken as variables in the conceptual framework.

The variables were tested by the practitioners and authors of the previous studies as explained in the above figure. Nevertheless, some variables were tested on qualitative based method and quantitative based method.

All the variables (which tested) were tested by different methods, tools, and business environments.

The aim of this research is to test all variables in the designed conceptual framework using a modified method and tool (qualitative) the project based organization in Dubai. Consequently, this will lead to the main aim of the research which is to investigate which of these variables plays as a essential problem in managing multiple project and affect the efficiency of the PPM in the selected organization.

4. The Methodology

4.1. Introduction

Baratt et al. (2010) revealed the explanation about the different reasons of conducting research and how different research methodologies are selected in order to reach the aim of the research. In this research, different research methodologies are selected and used, starting from reviewing literature related to the topic of the research. In addition to that a qualitative approach is developed with findings from case study about selected organization. the researcher provides comprehensive reason to justify the methods that are selected to achieve the purpose of the research.

4.2. Research Problem

In this research, the researcher investigates problems areas that affect the project portfolio management and study the major problem areas in depth that affect the PPM performance and understanding the linkage between these problems with the entire PPM performance and efficiency. The main part of this research is to focus on what kind of problems that affect the efficiency of PPM. Thus, the researcher concentrates on collecting information about the management of Projects portfolio including the definition and the importance of PPM. Nevertheless, this paper provides overview of set up project portfolio and process of project selection. Although the solutions can not be found clearly in the real life but this paper introduces some of solution and technique to increase the efficiency of managing the project portfolio. To support the findings of this paper, the researcher use a case study of a project based organization in Dubai Government and examine the efficiency of the PPM and what kind of problems is faced by the mentioned organization.

4.3. Research approach

Qualitative approach is selected in this research because it is the most suitable approach for the topic of this research; it avoids the bias and subjectivity in collecting and presenting data. The qualitative method can reach the particular issues of the research directly. There are others types of qualitative methods which are observations, experiments etc. these methods

make data and information of the research more reliable. Polgar (1995) demonstrates that the qualitative approach introduces verbal data instead of numeric data as quantitative approach does.

The researcher choose a case study as a main tool in this paper in order to examine and define the problems that affect the efficiency of the PPM in the project based organization in Dubai Government. The main data of the study is collected through 10 semi-structured interviews. A Semi-Structured Interview is a method used in the research. It is considered as the most flexible method because while interviewing a new questions can be brought up as a result of what the interviewee declares (Wikipedia, 2005). Factually, this method facilitates the interviewees to reveal their point of view very honestly, deeply to the point and in comprehensive way. Nevertheless, this method gives the interviewee more comfortable space to comment and discuss the questions that cover the topic of the research. The open interview facilitates the researcher to explain the question to the interviewee in case if they did not understand it. Moreover, this method helps in gathering more reliable data in a professional and proper way (Naylor 1999). In addition to that Fellows and Liu (1997) recommends that the interviews should be short and consists of 10 questions maximum to sustain the focus of the interviewees.

4.4. Data Collection Process:

The research methodology positioned in this research is selected in order to provide the most coherent answer to the question of this research. The methods are as follows:

4.4.1 Literature Review

Literature review provides overview of the project Portfolio Management. It also investigates the problems in managing multi-projects environment. The data collected from literature defined the following:

- The definition and the importance of PPM
- The process of selecting Projects and set up project portfolios
- The problems in managing the projects portfolios

- The solutions and techniques that help in increasing the efficiency of the PPM

4.4.2 The Case Study

As mentioned earlier in the conceptual framework chapter, the Conceptual Framework is designed based on the information that is collected from reviewing the literatures. The variables that are mentioned in this Conceptual Framework lead the researcher to reach the objectives of the research. Afterwards, selecting the most suitable organization and using different methods to test these variables and find out which variables that affect the efficiency of the PPM in the selected organization.

As the researcher mentioned earlier the main instrument to collect data in this paper is the case study. The selection of the case study organization is based on the main mission and objectives of the organization which is managing construction projects in certain organization in Dubai. The research question is what kind of problems that affect the efficiency of the PPM in the project based organization; the researcher selects this particular organization because it is part of the Government of Dubai and it manages and performs all projects that related to Aviation sector. It has several clients and stakeholders who can benefit from its services. Nevertheless, this organization is chosen because of its Projects Portfolio which consists of numerous large projects amounted to AED (37) billion in the year 2010 and obviously the management of the portfolio is facing some problems.

The data were collected through conducting Semi-Structured interview with total 9 employees. Each interview took place from 30 minutes to one hour to answer 10 questions, and it depends on the ability of the interviewee to speak openly.

4.4.3 Interviews

The interview helps the researcher to construct base to collect data that facilitate in analyzing the results and sketch the conclusion of the research.

The selected organization is considered as a division in the DCA and specialized in managing projects of the Aviation sector only so it is considered as PMO for the constructions of the Government. This organization has numerous departments and each one is headed by senior executive who reports to the top management. According to the organization structure the senior executives and project managers are few. Thus, the researcher chooses the sampling of interviewee from different departments in order to get different ideas and information.

It is known that this organization is the busiest organization in the Government of Dubai, so the researcher faced obstacles in conducting interviews with the top management and other staff. Professionally, the researcher sent a 15 official letters for 15 staff from different levels requesting to participate in the interview, only 9 accepted to be interviewed.

The questions were sent via emails to the respondents before the interview take place in order to have idea about the interview. The interviews take around 30 minutes to one hour while the interviewer writes down notes.

The interviewer play a major role in the interview, the interviewer encourages the interview to speak openly an comfortable, and explains the ambiguous questions for the interviewee in order to provide proper and accurate answers. Through the interviews the interviewer comes up with new questions to gather more information from the respondents as needed.

The participants are from different levels and different departments in order to get different views; the following table consists of the name of the participants:

Table 2: Names of the participants:

<i>Name</i>	<i>Designation</i>	<i>Department</i>
Nadia Ahmad	Portfolio Manager	CEO Office
Mustafa Shahrer	Consultant	Development and Master Planning Unit
Ahmed Ali	Project Manager	Building Construction Unit
Alia Jasmi	Project Manager	Building Construction Unit

Khalil Sabri	Project Manager	Airfield Infrastructure construction Unit
Samar Adnan	Head of Unit	Quality Assurance & Strategy unit
Amal Rashid	Head of Unit	Procurement, commercial & cost control unit
Hessa Abdulla	Head of unite	Building Construction unit
Majed Mohammad	Project Manager	Airfield infrastructure construction unit

The aim of the questions address the second objective of this paper which is what kind of problems that affect the efficiency of the PPM in the selected project based organization in the Government of Dubai.

The questions of the interview are:

1. How the performance of PPM is measured, and what tools do you need for PPM
2. How do you track small as well as large projects and how do you prioritize the projects, do you have standard approach to select projects
3. Are all projects selected aligned with the strategy and objectives of the organizations?
4. do you normally communicate the information needed between different department
5. Is the decision making system are efficient in your organization and to what extent it help to accomplish the efficiency of the PPM.
6. how do you allocate resources to the projects and reallocate resource in case if there is shortage between the projects
7. do the staff have clear job responsibilities, do they committed to their work
8. If the management realizes that the project in progress is selected wrongly, what is the process should be taken to recover this issue.
9. how do you resolve the conflicts that occur between different levels of management

10. Does the higher management have strong authority in managing the PPM?

4.5. Observation and reviewing secondary data

Observation is another method to get more reliable information about the selected organization. This method can facilitate the researcher more to accomplish the objectives of the research. In this phase, the researcher gets secondary information such as organization structure, list of projects, actual figures of projects' cost, sampling of some projects planning documents, meeting minutes, the external audit reports etc,

Throughout this method the researcher can have big picture of the organization and accurate data.

The research get the most helpful data from the external audit report because this report is conducted by bias party and reveals some problems incurred in the concurrent projects.

4.6 Data Analysis

Firstly, the data are collected from literature lead to draw up the conceptual framework of the research. Secondly, the data of the case study are collected through the interviews. By using systematic approach the findings from the case study are linked to the literature part and are analyzed. Eventually, based on the analysis, the discussion, conclusion and recommendations are represented.

4.7 Limitation to Data Collection

Some interviewees are conservative about some issues in the organization so they do not provide information that can affect their career in the organization. Moreover, some respondents have limited knowledge about their jobs.

5. Case Study

5.1 Overview

The year 1997 marked the establishment of the first EP as projects office to start official operations from the start of the 1998 financial year. The projects office being part of Government department in Dubai was tasked to over look the expansion of the Aviation sector in Dubai.

With just limited number of staff at the early start, the office managed to pull together the successful completion of Concourse 1, Terminal 2, Terminal 1 expansion works, Dubai Airport Free Zone Authority facilities.

Subsequently, the projects office re-named as "EPD" as Directorate of the government department restructured to efficiently and effectively perform its duties in representing the Government of Dubai to develop modern aviation infrastructure. Without doubt, the ambitious growth plans for Dubai Aviation sector, called for the EP to embrace the highest levels of knowledge, abilities and professionalism in delivering its projects. Hence, the vision "Delivering beyond expectations".

Currently, the EP being the master-planner of Dubai Aviation sector infrastructure is overlooking the development of both Dubai Airport Phase II Expansion and Al Maktoum Airport International Airport with the surrounding Dubai World Central cities.

With the recent successful completion of Terminal 3 and Concourse 2 at Dubai Airport, Dubai made the international Headlines.

Since its establishment, EP has been adding capacity to aviation sector at a fast growing rate. EP has met the growth challenges and delivered the best terminals, concourses, runways, airfields and facilities. The scope of its work encompassed the whole story from the idea inception all the way to the details of all technical aspects, live testing and operation. It has already master planned, managed the design, managed the contractors and developed both Dubai and Al Maktoum Airports. The capacity of Dubai Airport is yet to grow

further when concourse 3 is complete. On the other hand, the first runway of Al Maktoum International Airport is now ready for operation. While the professional staff and associate suppliers are working together to provide the best in class airports, maintaining their focus on protecting the environment and incorporating the newest technologies to produce the most sustainable and economical solutions.

The List below is Highlighted some EP's achievements:

In 2010 SSE Unit become a member of BSI (British Standards Institute).

In 2009 EP SSE's staff gets certified with IIRSM (International Institute of Risk & Safety Management) and IEMA (International Environment Management Assessment).

In 2007 Safety, Security and Health unit in EP got the 5 Star Awards" in Health, Safety & Environment from British Safety Council (UK) for three consecutive years.

In October, 2007 EP certified with three integrated management certificates which are ISO 9001:2000, ISO 14001:2004 and OHSAS 18001:2007.

ENGINEERING PROJECTS Organization Chart

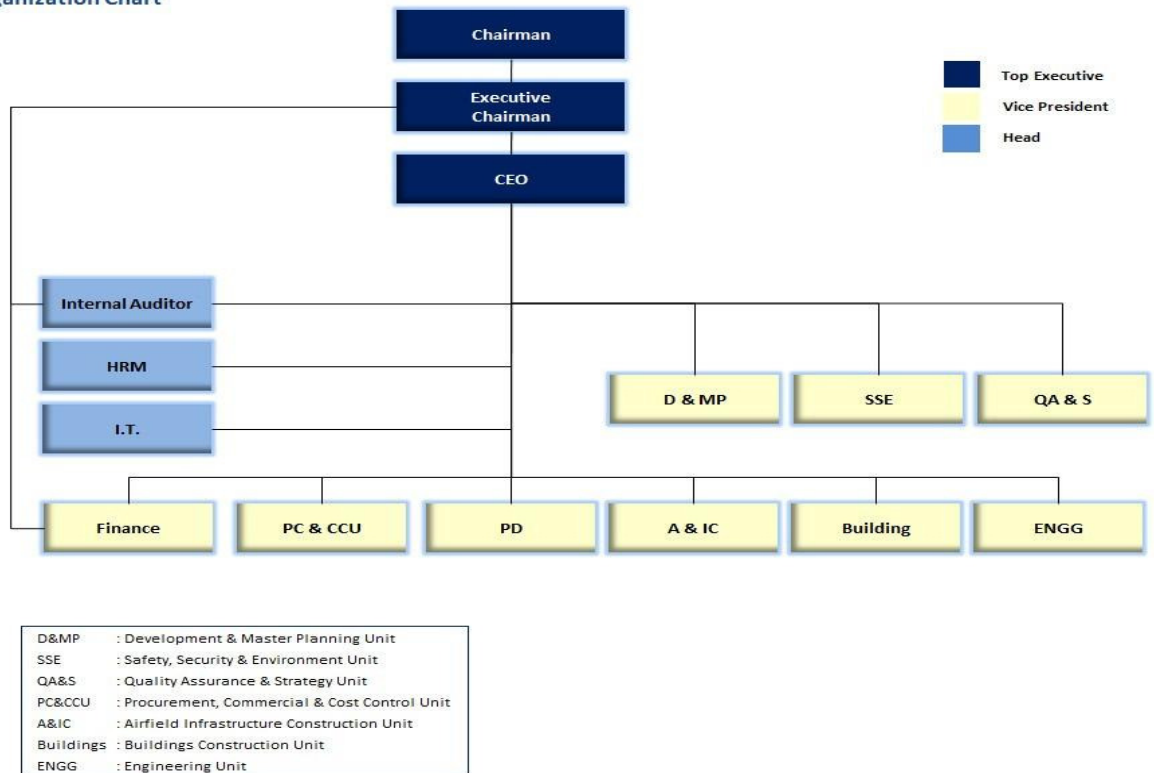


Figure 17 : organization chart

Vision

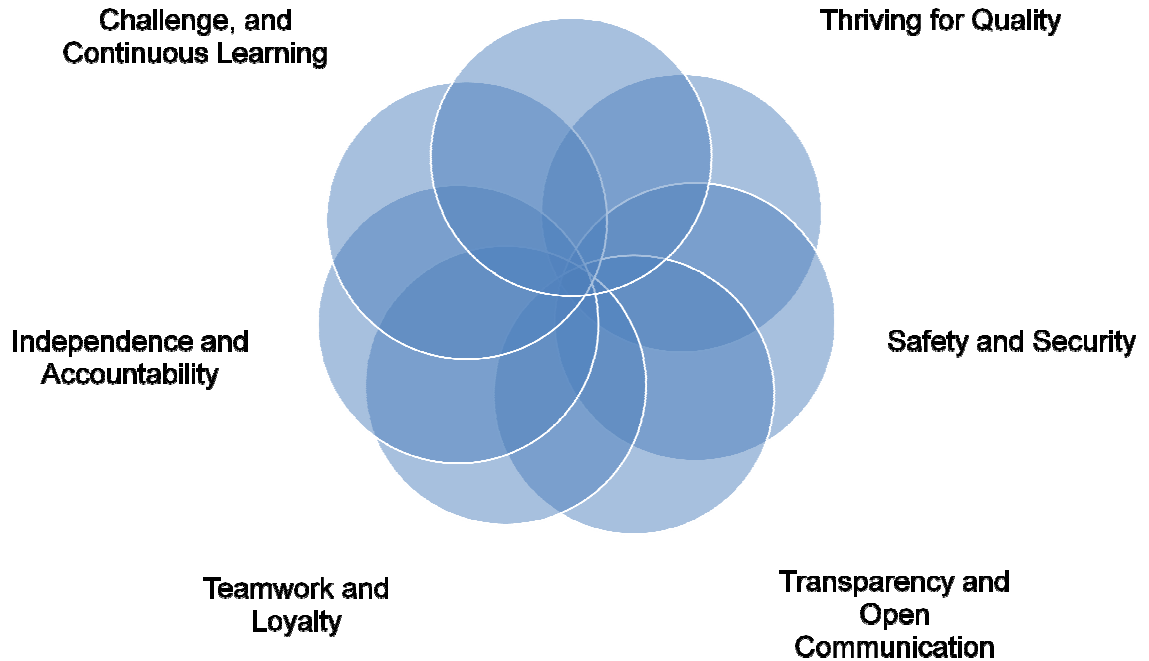
"Delivering beyond expectations"

Mission

"We endeavor, on behalf of the Government of Dubai, through dedication and commitment, utilizing our wealth of professional knowledge and experience, to provide in accordance with the leading international standards the state of the art world class projects beyond our stakeholders' expectations."

EP Values

Professional Ethics



5.2 EP Role and Objectives

EP Role

Based on the directives of the Chairman to maintain independence and high level professionalism in all engineering projects, we take the following role:

1. Provide advisory, technical, supervision and oversight roles;
2. Safeguard the interest of the government and stakeholders;
3. Provide top class service for the stakeholders;
4. Coordinate with the auditing bodies in monitoring and assessing the performance of the consultants, contractors and suppliers.

Objectives

1. To ensure the best value for money in all projects entrusted to us;
2. To support timely, efficiently and appropriately the growth of Dubai aviation activities;
3. To provide development opportunities for the UAE citizens in managing high technology projects;

4. To ensure adherence to highest international standards in all projects and achieving maximum level of quality;
5. To protect the environment and maintain safety in all activities.

5.3 EP Critical Success Factors

Innovation	Agile Decision Making	Timeliness
Plan and Act Proactively	Flexibility and Dynamism	Clarity
Learning & Professional Development	Partnering	Quality

5.4 EP Core Competencies



5.5 EP Main Functions

1. Major Business Processes

- Owner Representation and Contracting
- Customer / Stakeholders Order Management
- Customer / Stakeholders Relations Management

2. Major Management Processes

- Human Resources Development (HRD)
- Strategic and Macro Planning
- Resources and Capacity Management
- Performance Management
- Quality Assurance
- Budgeting
- Financial Management (including Payment Management)
- Internal Auditing

3. Major Technical Processes

- Master Planning

- Basic Engineering
- Design Review
- Design
- Technical Specification Setting
- Tendering and Contracting
- Managing Consultants
- Project Management
- Construction Management and Supervision
- Change and Variation Management
- Technical Evaluation, Testing, Commissioning and Approval of Systems and Materials
- Cost Engineering, Value Engineering and Cost Control

5.6 The project Management process

Business development

Business Development may come in a number of different forms, but for most business objectives and strategies there will be a need to execute projects to create a capability to achieve these targets. Most operational goals change over time and management is challenged to remain dynamic with this ever-changing environment. Projects are a means to develop capabilities to meet the organizational and business needs. For Example there may be an operational need to reduce unit costs in some area of business. Possible solutions could be; increase process efficiency – in-turn, this leads to revise the process or include more automation or provide better tools. It could be any of the choices, or more realistically a combination of these. Now in order to achieve this, the organization will need to select the best and most cost efficient project to create this capability in-order to achieve the desired business result.

The Business Development process begins with addressing a business need with typical inputs, such as ideas, problems, opportunities and business requirements, these various options are then elaborated on and investigated to provide the optimum business solution which brings about the production of a business case to support a project.

Project Management Support focuses on the development of Project Management across the organization. It has been established so that we can adopt a common language and practice for the execution of projects, therefore ensuring a more consistent approach which minimizes risk and ensures that our projects are more successful.

Initiation and definition

The Initiation and Definition phase of a project is the process of formally authorizing a new project it is the process of gathering further and sufficient information to support the Business Case, to prove project viability in order to

formally authorize the project. The Project Charter, which is developed during this phase, is the vehicle for project authorization.

Planning

Planning is of major importance to a project because it involves doing something that has not been done before. As a result the initial planning phase of a project tends to be intensive as it sets in-place the entire project controls. However the amount of planning performed should be commensurate with the scope of the project and the usefulness of the information developed. Planning is an ongoing effort throughout the life of the project and a process that is almost always iterated several times. The main deliverable from the planning phase is the Project Plan.

Execution and Control

Project Execution and Control involves the process of co-coordinating people and other resources to carry out the plan and ensuring that project objectives are met by monitoring and measuring progress regularly to identify variances from the plan so that corrective / preventative action can be taken when necessary.

Close-out

The Close-out process formally closes the project either by the acceptance of the product(s) or project termination for other reasons. The process brings the project to an orderly close. The process includes generating, gathering and disseminating information on project completion, including evaluating the project and compiling lessons learned for use in planning future projects.

Utilizing the EP processes on Expansion projects

The EP proposes these processes now because:

- Processes will help deliver better value, more predictable projects
- Right time...

- ✓ Less front end project activity – good time to implement new processes
- ✓ Current economic situation – more focus on cost, RoI, value for money
- ✓ EPD restructured – Development & Master Planning Unit
- Concept of new processes signed off by Chairman in Nov '08
- Processes complete & rolled to consultants last August

The context of Cost control in the projects

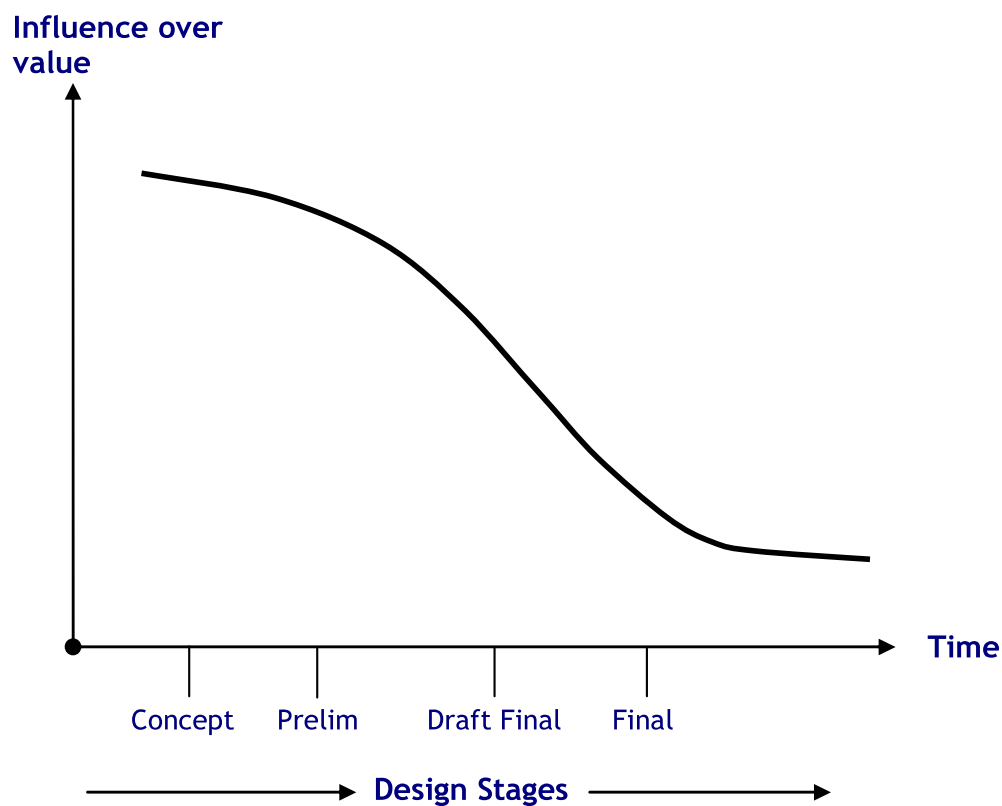


Figure 18: influence over value in the design stages in EP

The greatest opportunity to influence the value of a project is in the Design Stages.

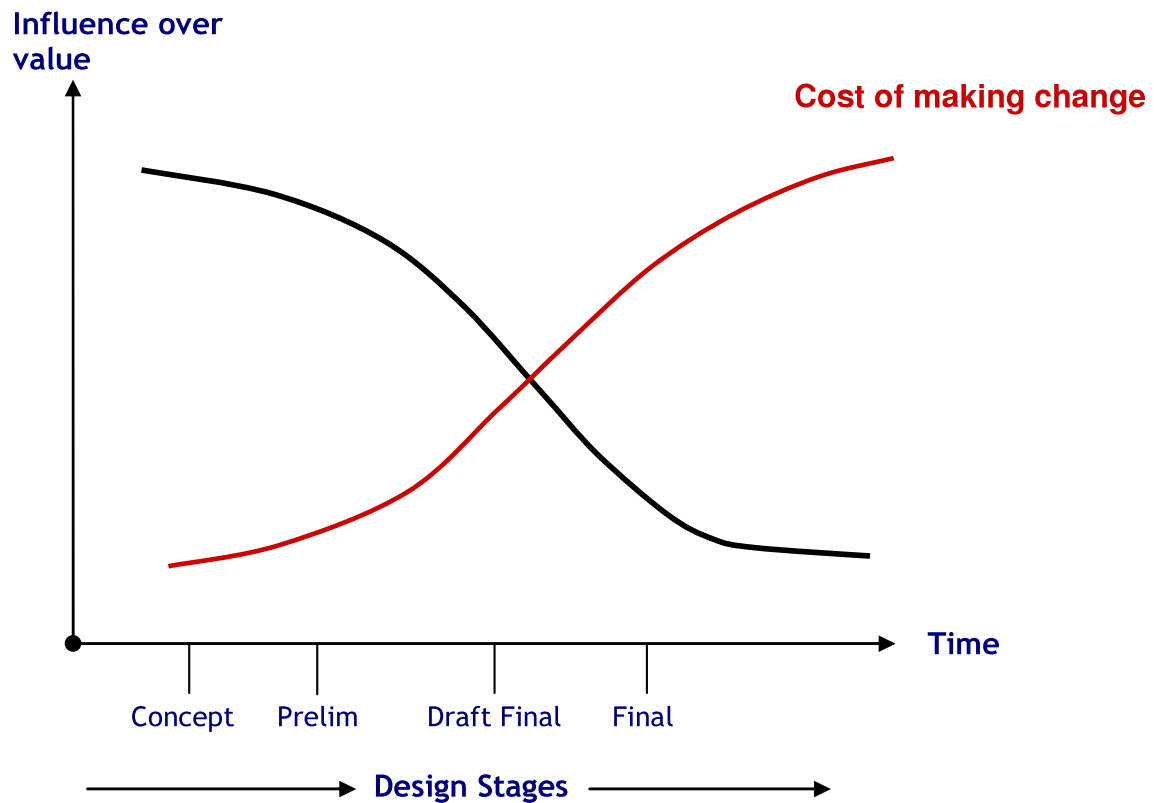


Figure 19: influence over value in the design stages in terms of cost of making change

The relative cost of making changes significantly increases as the project progresses. This is because the program is extended due to abortive design and rework.

Pressures on the cost of the projects in the design stage:

- Client scope changes
- Design Development
- Other factors

EP Commercial Processes

Context – Pressures on Project Costs & Controls

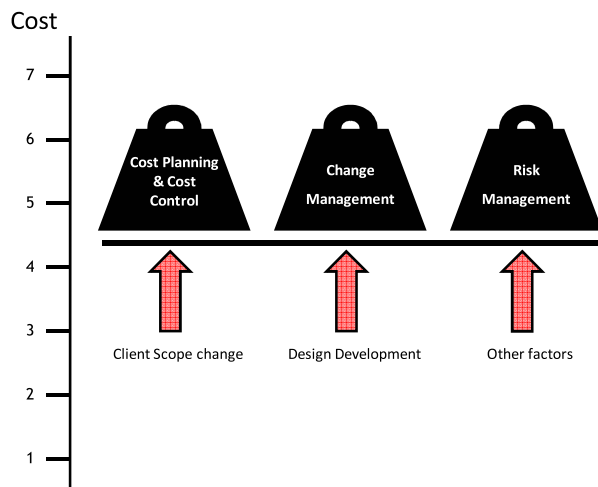


Figure 20: factors of pressures on project cost and controls

The 5 Key Processes:

1. Design Stage Gateway Approval process

Align design and costs before progressing

2. Cost Planning and Cost Control process

Design to a Cost / Budget

3. Pre Contract Change Management Procedure

Review design changes before implementation

4. Post Contract Variations Procedure (as existing process)

Review post contract changes before implementation

5. Risk/Contingency Management Procedure

Identify and manage risks

1. Design Stage Gateway Approval process

- Align design and costs before progressing
- ensures project **scope, design, cost** and **programme** are all aligned
- Allows Client to test against business model
- Allows management to formally review project (design, cost & prog)
- Sections on Procurement, top 5 risks, value engineering etc.
- Project team can highlight Project Health

EP Commercial Processes

1. Design Stage Gateway Approval Process

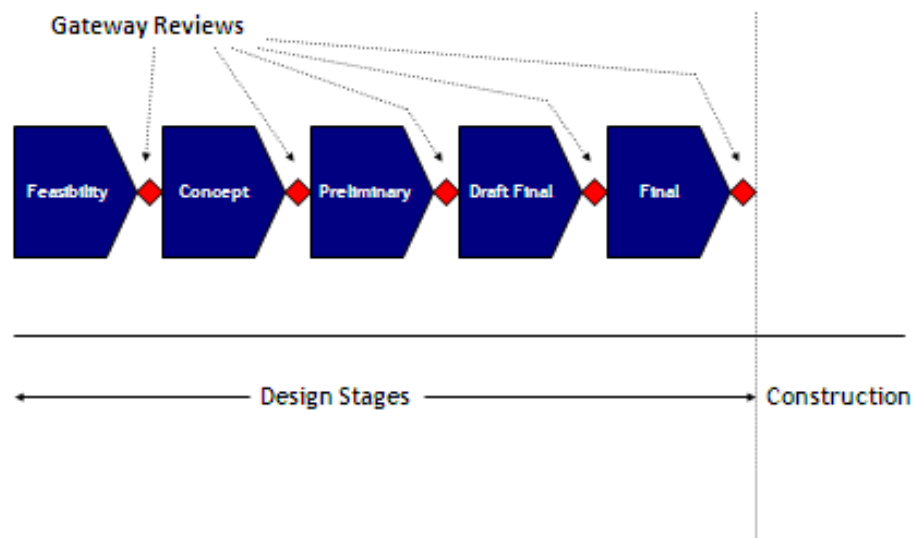


Figure 21 : Stage Gateway in EP

2. Cost Planning and Cost Control process

- Design to a Cost / Budget
- Fix appropriate project budget
- Provide cost information to support Design Process
- Produce cost plans for each stage

- Regular updates of cost plan during Design Stages – cost targets
- Track costs against budget
- Advising on costs of different options
- Providing benchmark cost information
- Providing costs to inform system selections e.g. curtain walling systems including life cycle cost information
- Managing risk

3. Pre Contract Change Management Procedure

Review design changes before implementation through two records:

✓ **Change Control Record**

- ensures major changes and changes in project scope are approved by Management / Stakeholders prior to implementation

✓ **Change Register**

- records status of above changes and captures history

3. Pre Contract Change Control Process (2)

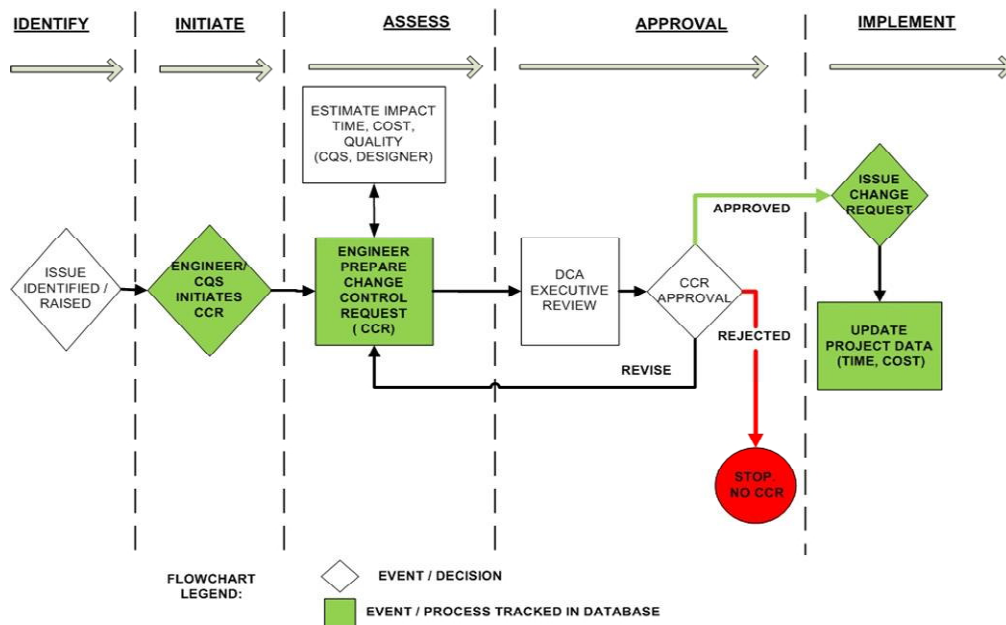


Figure 22: Pre contract change control process

4- Post Contract Variations Procedure (as existing process)

- Review post contract changes before implementation

5- Risk/Contingency Management Procedure

- Identify and manage risks

EP Commercial Processes

5. The Risk Management Process (1)

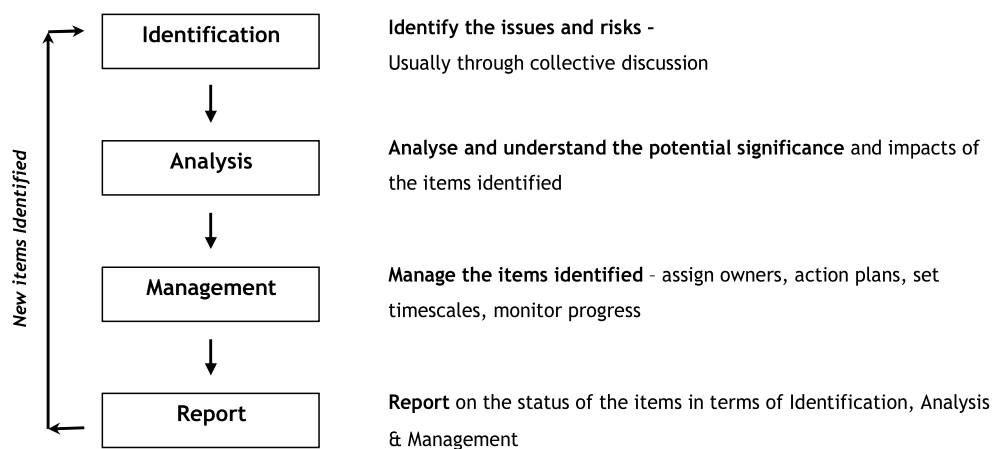


Figure 23: The risks management process

- Determine the impact & evaluate the likelihood
- Determine the overall RAG score
- Informs the Risk Management strategy & allows prioritization
- Iterative Process

6. Discussions and Analysis

6.1 Introduction

The presence of numerous respondents who were interviewed gave the researcher an opportunity of obtaining a multifaceted approach to a similar research problem. The research data that was gathered is contrasted against a back drop of data derived from the literature review of previous research studies on this topic. The primary goal of this research was to underline the problem areas that affect the efficiency of projects portfolio management in the selected entity. Although portfolio management gives a project its overall direction, most project managers have a tendency of supervising its intricate details to ensure that there are no aspects of the project that are ignored. Through analysing data from interviews and secondary data that the researcher had reviewed the observed, the researcher was able to discover and analyse different problems. The discussion section gives overview about the importance of the PPM then gives a synopsis of the general findings from the case, after which a discourse of the problem areas or obstacles to effective and efficient implementation of PPM is given.

6.2 The importance of the PPM

All the information gathered from face-to-face interviews was tabulated to assist in drawing the final conclusions. The outcomes from interviews indicate many reasons and justifications for such significance. For instance, before launching the PPM, there were numerous e discrepancies and mistakes in managing most projects until they were finished. One primary reason why this like a scenario existed is because of the numerous conflicting interests between different projects. Most managers of different sectors or departments of an organisation will always fight to ensure that projects that will favour their departments are approved with little consideration of the need for such projects to ensure harmonization and coordination of different departments. Such like behaviours have led to the replication or repetition of projects and targets, as most of these projects are presented using unrelated names. This like was like practise was common in most organisations before PPM came into existence, as there were no systematic mechanisms or managers who had the power to do away with such occurrences. Therefore,

the implementation of PPM has allowed entities to realise the significance of PPM and it has also compelled teams (primarily project managers) and departments to give it the desired support aimed at making it fully operational.

In addition to this, most organisations strongly assume that launching PPM will give PM teams a reason of implementing PPM effectively, because of its effectiveness in promoting the operational environment of an entity. Further, PPM helps organisations in setting the goals of each project that may be chosen and approved, in addition to linking such projects' targets with PPM and business goals. Moreover, the implementation of PPM gives the organisation a common place or information base for running and implementing projects. Prior to this, most organisations executed different projects singly and separately, regardless of whether there existed projects that were related. As a result of these, any changes in any project's scope of work or schedule could sturdily affect other projects. With the introduction of PPM, nowadays projects pools are easy to coordinate, monitor, and control, because it gives managers an opportunity of aligning all project plans with the PPM planning cycle. This is of great significance when it comes to risk identification, formulating of risk mitigation plans and promoting better project and organisational performance. From the analysis of the answers provided by respondents, all respondents supported the idea of project management and portfolio management working in unison.

6.3 Measures of PPM effectiveness and their relevance to corporate objectives and project objectives

Although PPM is an emerging idea, there is adequate understanding and implementation of PPM. In addition, although procedures and policies to maximise the value of the portfolio projects are in place in most organisations, most of them are still under development. In addition, the mechanism of choosing the projects and apportioning resources are still under constant development and perfection in most organisations. However, the choosing of projects serves most organisations' objectives and strategic goals that are well mapped to Dubai Strategic plan (DSP,2013). Therefore, before a project is started, any project's objectives are correctly linked or mapped to an organisation's objectives. Regardless of this being the case, most

organisations lack the necessary measurements to gauge gains from completed projects. Further, most organisations lack clear methods of reassessing the performance at portfolio levels, it being one of the most important features in development of the PPM idea in any establishment. Most measurements are only performed in the project levels. This concept will be examined in the problem analysis section. In general, because of the new idea and execution of PPM in government agencies, the PPM performance is acceptable by the stakeholders and the gains from such an idea are realised and are likely to elevate both corporate and project success.

6.4 Problems in Project Portfolio Management

Efficiency is an essential part when it comes to management of projects. It is one way of building trust and confidence among the clients. As a matter of fact, many organizations in Dubai have repeatedly failed to meet their targets in project portfolio management due to poor project management. As mentioned in the case study, the selected organisation is based in Dubai under umbrella of Aviation sector, it deals with construction and expansion of airports and free zones and other related parties in Dubai. For example the strategic value the project has, the impact the project has on the resources, the costs that will be incurred by selecting that project and by considering other vital variables, which the organization considers important and vital to accomplishing its projects.

In addition, various objectives need to guide the project managers in order to avoid the managers failing to meet their targets and accomplishing their projects in the required time. For instance, it is important for the project managers to have a clear glimpse of what is required and the necessary tools and resources that he/she wants to achieve. In general, the project portfolio management begins with developing a comprehensive inventory list of all the projects and detailed descriptive information about the available projects to facilitate their analysis and comparison with other projects. This information is about the name of the project, the estimated duration for the conclusion of the project, the objective of the business, information on how the project supports the overall organization strategies and many others. After creation of the inventory the managers need to examine each project and prioritize every

project according to a certain criteria after which a well balanced and supported project is arrived at where projects will be classified according to their priority ranging from lowest to highest with other projects being dropped entirely. There is a great risk and danger involved if there is no clear organization and planning as the project portfolio management may turn out to be a big blow to the success of the projects. It therefore requires very careful attention by the CEO in charge if excellent results are to be achieved. From the interview conducted in the organization the project managers attribute problems faced in project portfolio management to poor overall management technically and managerially as addressed in this chapter.

Inadequate Portfolio Level Activities

As stated earlier the organization has to perform projects for many stakeholders under the aviation sector such as Airports, free zones and related parties, thus There are several problems affect the activities in the portfolio level such as prioritization of the projects, too many concurrent projects, stakeholders request projects that are not aligned with the organization strategy and a lot of overlapping projects and tasks during execution.

The head of Building construction Unit declare that one of the challenges or rather problem that are faced by the organization is poor or lack of prioritizing of projects or tasks in their proper areas. This problem leads to disorganization leading to poor management of the projects. The department charged with the responsibility of receiving, reviewing and selecting these projects seems to be in slumber land. Most of the problems and disorganization in the entire organization originates from the choice of projects. For instance, each party from the stakeholders request for a project that has to done and each party consider that its project has high priority and has to be accomplish on the time. Here the organization face a problem in prioritizing their portfolio, and some of the projects that are selected are not in tandem with what the organization is supposed to handle. For example, some projects require technical equipments and human labor, which the organization is not able to afford. Such poor selection and choice of projects causes a lot of confusion in the organization making various procedures

tedious. Nevertheless, some projects that are supposed to be carried out by a Road and Transport Authority or Municipality may find its way in the list of the projects that the organization is supposed to carry out. This clearly shows lack of competence and prioritization of projects hence making the overall process of the organization run inconsistently.

Another hitch that halts the good performance of the organisation is selection of many projects that surpasses the normal required capacity of the organisation. This problem is often faced in the organisation. The problem is attributed to lack of communication and poor planning by the management and the stakeholders. It has been established that some of the projects are selected because they appear to be done quickly but when the project is initiated, it is found out the project is not easy, as they early thought. This choice of project without clear examination has also been a big problem that has made the organisaion lag behind and unable to complete its projects on time.

On the other hand the project team does not examine the projects adequately. This therefore leads to selection of projects, which do not add value to the organisation. For example, the organisation may decide to carry out a project without really considering its costs and the resources that are required for the project to be a success. Therefore, poor prioritization of projects in this organisation has had a negative impact as it has come with devastating effects as the organisation sometimes end up incurring huge amount in terms of meeting the unexpected costs that is incurred by them because of poor choice. The researcher finds that there is no methods that adopted by the organization for prioritization of projects.

According to the projects mangers, there is also a problem of overlapping caused by poor planning and organization. This shows that there is no coordination between the project managers and teamwork in the organisation. Many projects overlap each other hence leading to confusion. This confusion also affects the plans and the budget of the organisation. There is also a problem when it comes to selection of contractors and when the job requires being complete within a specific period.

As the adage goes, 'Excess of everything is poison' and too many projects in portfolio management is not an exception. This excess handling of

projects, as research reveals, explains the reason behind projects failures, following the inability of the management to handle them at ago. Many projects in the portfolio are also attributed by many managers to be one of the major causes leading to problems in project portfolio management. the Organisation is one of the organisations in Dubai that has the problem in management of its project portfolio. They receive big quantity of proposals and requests at their desks, which hampers clear identification and organization leading to poor selection. This problem emanates from lack of proper measures and procedures put in place by the management. Therefore, there is need for the management to put proper measures in place so that any project identified is well classified and well attended. There is lack of proper planning of projects, which are received, are not attended to well. The management has some laxity in dealing with new projects. This laxity and poor planning makes the projects to surpass the required level. This problem needs to be addressed urgently by the manager through putting in place appropriate measures. The organisation because of its corporate identity and the fact that it provides better service; there is need for it to come up with strategies which will help in containing the number of projects they receive. Likewise, the management of the projects can also opt to store the information about the information or data concerning the available projects in computers in order to be in total control of the available projects in order to avoid the incidence of many projects pilling up. Furthermore, there is need for the management of the projects to be organized well selecting those projects. They should select projects that they can be able to accomplish within a set period to avoid inconveniencing the clients. This might lead to lose of trust and confidence of the government and the organisation may end up losing its key clients hence leading to closure of business. The organisation can contain problems that face various project portfolios if only the management will be more organized and ensure that projects are not many. Projects should be well examined by managers and the required number chosen. When projects are many, they pose a big challenge to the resources available at hand which may result in many of them not being undertaken. The only remedies that this organisation need to do is to put in place proper mechanisms for instance a department that will be entailed with the responsibilities of ensuring that the

most important projects which meets the requirements of the organisation are taken. There is also need for the management of the projects either to carry out continuous assessments quarterly, semi-annually or annually to be able to identify whether the number of required projects surpasses other maximum number required.

In addition to that there no link between the projects, the stakeholders such as free zone and duty free points request similar projects and in the same areas, the organisaiton accepts and executes the projects from both sides without link them systematically. The linkage between the projects occurred; the time and resources will be saved systematically.

Inadequate Single Project Level Activities

Managing the individual project efficiently will ensure the efficient of the entire portfolio. Inadequate single project level activities are also one of the problems the organisation is forced to deal with in many situations. Selecting the right contractor is considered one of the issues in the single project level activities. The organization is following contracts law no. 6 which issued by the Government of Dubai in the year 1997. The contractor is selected according to the technical criteria and the financial criteria. The technical criteria vary from project to another project; they depend on the nature and the requirement of a particular project. The Technical evaluation should be done by the concerned department and the results are forwarded to the Procurement, Commercial and Cost Control Unit. The sum of score of the technical and financial criteria should equal to 100%. Nevertheless, there are other criteria should be taken in the consideration when selecting the contractors such as experience, performance, managerial criteria, and the financial capability of the contractors. For instance, In Project A, the organization had selected the contractor according to the high score in technical criteria; However, the contractor is from USA and has no experience in the UAE in addition to that the organization doesn't have any information about the contractor and its financial status. The contractor recommended new technology and latest innovation in the mentioned project; but the organization didn't investigate past performance of this contractor in implementing this new technology. As a result, there are some works are

terminated due to that the Contractor still hold advance payment of terminated work amounting to AED 676 million. The top management reveals that under the condition of contract there is no obligation for either party to make any payment until the final account is agreed. The final account although well advanced is still not agreed. At the moment the organization estimates that the value to be recovered from the contractor will be approximately AED 500 million, but it is very unlikely in the present financial climate that the contractor will be able to make payment. The organization still possess an advance Payment Guarantees which would cover the outstanding amount, but any decision to make a claim on the guarantees would be take at the very highest level in the Government.

Furthermore, some of the contractors are incompetence and does not have the skills and resources such as labors to execute the duties assigned to them. For instance, a contractor was selected to execute project B, the organization paid AED 52 million as advance payment for the contractor delay in execution. As a result, the advance payment amounting to AED 52 million has not been used for its intended purpose. So it, the contract that was awarded was not completed hence forcing the owners of the contract to recall the contract and re-warding the contract to another contractor. This incidence cost the organisation many funds putting it into arrears as it had paid part of the money to the contractor. This therefore was an incidence, which not only had financial implication but also had a negative impact to the overall public reputation or rather image of the organisation.

There is another issue that affects the efficiency of the portfolio when wrong projects are selected. For instance, a project that does not fall under the organisation jurisdiction is selected as a project, which is supposed to be carried out by a Road and Transport Authority, is brought into the organization by the stakeholders. A mistake like this has occurred in the organisation more than once. Inform the people in charge of selecting and reviewing these projects should be competence and be trained or rather about the kind of projects that are taken. Such incidence, apart from causing confusion, it wastes the time of the owner of the project since considerable amount of time will be spent before realizing that the project was not supposed to be carried out by the organisation.

Another problem is that of inadequate definition and planning of the project. The departments should be able to ensure proper planning to ensure that there is well assignment of tasks, definition of what is expected be done, planning for the costs to be incurred, planning for the resources and capital that is required to ensure that the project is completed successful. Failure to plan has seen various projects come to a standstill, with others not being done properly. Planning will also sort out the issue of time management. This will ensure that every project is given enough time for its completion. Planning will also give priority to those projects, which are required to be completed within as short period. Such project, which requires a small period, will also be given the first priority this will ensure that projects are completed within the stipulated time hence promoting efficiency and effectiveness. Complexity of projects is another problem the project managers faces

Complexity of Projects

The complexity and simplicity of these projects varies, with some being easy while others are complex. The complex ones end up lacking professionals, failing as a result. This is also one of the challenges faced by this organisation. Although the organisation has well skilled workers, sometimes the projects that the organisation is given are complex and therefore requires a more experienced workforce. This complex projects are tricky to handle as it means that they require a lot of time and also requires more advanced manpower. In addition to special resources which comes with high costs.

This is a challenge that the organisation has also been facing. For instance, the projects may be doable but the time to be taken to finish the project is an issue of concern as such projects take a lot of time which either could have been used in doing another projects which could be more rewarding. The technical competence required is also a matter of consideration especially if the project is that complex. The organisation may be required to outsource some services from outside countries, which may be expensive in terms costs of paying them. For instance, the organization has a lot of complex projects such as infrastructure of Jabal Ali Airports, building villas and apartments in the logistic city, these projects need huge planning to

achieve them in as the client require. the organisation may decide to outsource its employees from the experts from other countries who are specialists in this area. Furthermore, there is need for decisions to be made after consulting the employees as opposed to the higher management only.

Scarce Resources and Problem in Reallocation of Resources

Resources can be considered as those stuff that consumed by a project during its implementation. Examples of these resources are manpower, finance, time, plant and machinery, materials and computer. A project can be defined as a set of actions that utilize resources with visibly defined start and finish point and produce the end product. Most of the literatures on multi-project management addresses that the basic issue of the PPM is allocation of resources between concurrent projects. There are constant competitions between the project managers concerning projects priorities, staff, attention and resources. Any project requires resources and funds for its smooth running, without which the project is doomed to fail. More so, improper reallocation of the resources too is a major problem facing projects. Due to financial crisis that occurred in the world and affect the worldwide organizations, the organisation in question has faced acute shortages of funds and other viable resources at its disposal. In addition, it encounters the problem of reallocation of its available resources and inadequate finances at their disposal because of various crises the organisation faces. The mentioned organization had suffered from this crisis and many projects in its portfolio were killed and stopped. Since the organization manages project portfolio amounted to AED 34 billion, many cases of shortage of resource and reallocation problems has occurred.

Jabal Ali project serves as an epitome as far as resource reallocation problem is concerned. The organization had stopped projects amounted to (4.84) billion in January 2009 in Jabal Ali Airport's site. As stated in the Audit report that the organization is maintaining raw materials on Jabal Ali site amounted to AED 246 million without usage for more than two years. The organization responded that they have endeavored to use any suitable materials for other projects such as steel reinforcement which was transferred to the Dubai Airport site and will continue to do this wherever possible. There is also a possibility of part of the projects being resurrected albeit on a much reduced

scale and should this happen most of the materials would be free issued to the contractor for use on this project with the resultant saving being applied to the new contract.

Another issue is that the organization has paid advance payments for 3 projects amounted to 79 million while these projects has been stopped due to shortage of funding, and these payments still are holding by the contractors, in this case the organisation is facing vital issue in completing other projects and failed to make payments to contractors who complete their projects. Furthermore, the organization is facing shortage of materials and request for financing from the Government amount to AED 567 million which is %85 of the demanded materials to complete the on going projects in Dubai site.

Since the organisation has a wide range of clients as well as the projects it carries, it faces frequent acute shortages in its resources often. The projects-based organisation requires, a heavy investments in resources ranging to work force and equipment to aid in its roles. For instance, the organisation is the only one, which the government depends on when it comes to any work relating to renovation of airports and construction of new facilities and investment projects in Dubai. It therefore requires ample resources to be able to manage the project portfolio. The management needs to increase the human capital to be able to assist in the carrying out of certain tasks in various departments. For instance, the department dealing with evaluation and reviewing, selection of new projects should be staffed with more employees to ensure that projects are well selected and reviewed to ensure that there is no disorganization. In addition, more competence staff needs to be hired in the organisation to provide technical skills and expertise for the organisation to better its services. Another area in which the organisation has failed is the allocation of resources. There are poor procedures and guidelines when it comes to allocating resources to various departments in the organisation. The most important projects which are cost effective and which are able to provide the organisation with funds in a short time should be given priority as opposed to those, which may take a lot of time before the realization of profits.

Furthermore, lack of poor communication and conflicts between the managers in the organization is also a major contributor to problems faced by the project portfolio management

Lack of Communication, Inadequate flow of Information and Conflicts

Communication in any organization may it be small or large organization is vital. Communication is the only avenue in which people come to understand each other in an organization. Therefore, without communication an organization is as well as dead. Communication hitch or breakdown, and poor communication are one of the major challenges that face the Organisation. First, there are no well-established channels of communication in the organisation, in which an employee can channel his or her views to the management. For instance, in the Development and Master Planning Unit, there is no communication going on between the top managers and the project managers in charge of receiving the information. This slump in communication process has resulted into poor decision-making and in analyzing where there might be a problem in the projects and where the projects need to be reviewed. In addition, the information, which is communicated in the organization, is not enough, therefore staffs work from darkness, as there is no clear information about the objectives set and the mission, which the organisation wants to achieve. When employees are unaware of the level of production they contribute in an organization they feel de-motivated and therefore hampers their motivations resulting to less commitments hence leading to decreased input hence poor production. Communication should be a priority in that the management and the staffs need to communicate with each other. For instance, the departments should consider networking with different departments so that in case of any information needed by all the departments, it is quickly conveyed. By doing this, the performance rate will shoot up because all the departments will be working on a same wavelength.

The presence of conflicts is an indicator of improper running, whether of projects or any other parameter. It affects the projects in that the responsible people, in such a case, cannot cooperate in making the project a success, hence their failure. Conflict in an organization is normal and cannot

be avoided. This is because; different people have different opinions, views and think differently. However, despite these, conflicts can be solved amicably and can be contained so that there is no misunderstanding in the organization. These conflicts in an organization are due to lack of communication and adequate sharing of information. This organisation is not an exception; there are various conflicts, which occur in the organisation between the managers and sometimes between the organization and its clients. These conflicts normally are because of poor communication. In addition, these conflicts escalate when the other party being accused by another is not willing to solve the issue through communication. This therefore leads to disagreements, which end up affecting the proper operation of the portfolio management. For example, a conflict occurred between the project manager of a certain project and the client because after the project design was completed and awarded to the contract, the end users required vast changes in the design as they have decided to change their philosophy for the retail area in the project. The client claimed that they didn't receive adequate updated information about the project while the project manager revealed that the client's representative had approved the final design. Eventually, the organization agreed to make the changes in order to meet the end users requirements while these changes result in high costs but the decisions are not within their control. Another example of conflicts occurred due to one of the manager making a vital decision without consulting the other. Such a conflict clearly shows that there is lack of communication in the organization. Therefore, most of conflicts in the organisation results to lack of communication and consulting the other party, a problem that can be solved amicably by the managers seeing the essence of communication.

Decision Making Basing on Power and Highest Management authority

Decision making process is an important aspect in an organization or a project and calls for all members to participate in the process, not based on power or rank in management. Decision making process in an organization is an area, subject to debate as far as decision-making is concerned. This arises after considering how the process should be carried out. Is it in order for management to be the sole decision making unit or is it a matter of involving

all the employees and other stakeholders? This is a decision that many organizations are yet to come into terms. For the case of EP Organisation, the top managements solely make decisions. This has been attributed to the ever wrangles which are witnessed repeatedly in the organisation. Most of the time the project managers do not know projects are strategic, this is because projects are chosen in this organisation in ad-hoc manners. One of the project managers revealed that projects are selected in the organization on the basis of a client requiring it or through the top management decision.

Employees at the lower cadre of management have always been complaining of being left out in most important decisions that affect them as well as feel isolated especially in instances where decisions that involve them directly are made without their consultation. Top management in this organisation is the one who make decisions in the organizing on entirely every level of management. They do not engage the other employees in the process of making decisions. The approach that is adapted by the management of the Organisation has eliminated the lower employees from speaking out their mind.

Employees are therefore demoralized and de-motivated by being denied that opportunity to participate in the decision making process on important issues in the organisation. For instance if the organisation is planning to provide some incentives or some changes in the organization, it is advisable to seek the approval of the employees in order to reach an amicable solution. Such introduction of new ideas and changes without seeking the opinion of employees often are the causes of go-slows and the cause of poor performance of the employees. The making of decision that directly affects the employee without consulting them has been one of the wrangles and conflicts between the managers and the employees in the organization and therefore this needs to be revised. More so, there is a problem when it comes to commitment of the employees and unclear responsibilities and roles which most of them are not understood by the employees.

Unclear Responsibilities and Roles and lack of commitment

Modern projects management system takes place within micro-projects of related and interlinked processes; they follow a multi-project management within an organization. The project management approach gives room to execution of multiple important activities (projects) simultaneously without conflicts of interest and each enjoying from the intensive cross-functional cooperation. Resources are scarce; thus, they need to be managed effectively, when implementing a multi-project organization, it offers a channel of flexibility in resource allocation, the flexibly assists in allocating resources effectively and reducing any chance of waste or delay in completion of a project for resources purposes.

Project management system facilitates communication within the project factor that facilitates invention and innovation of better resource management systems. In an effective multi-project in an organization, each stakeholder has a role to play in fulfilling the final obligation of the project. Neither role should be seen as inferior to the other however all tasks should be seen as equal. The main players are:

Project leaders (project managers)

Project leaders are mandated with the task of ensuring that a project is run effectively and is completed within the set period. When making objectives of a project, managers should ensure that they not only have the goals and objectives set but should be pioneers of policies to see their attainment. In case a management fails to fulfill its leadership role, then the project is likely to fail. Interlink and collaboration of a number of micro-projects calls for integration of management and their skills so as micro-project leaders can enjoy from intellectualism from the other.

Heads of Units (resource managers)

Resources are limited and need to be effectively be managed, department leaders has the role of manning their physical and human resources so as each project benefit an optimal allocation of resources. As a project unfolds, the managers are responsible of periodical controls and

monitoring to ensure that the project is on track with the set goals and objectives.

Top management

They are the top management mandated with the task of ensuring that entire firms objectives have been fulfilled the fulfillment of the entire firms goals is attributed to the effectiveness of an organization attaining its goals.

The organization has two types of employments, permanent employees and contracted employees. Each employee has job description, responsibilities and roles. While these responsibilities and roles differ from person to person according to his level and unit. In case of projects, the high management distributes the projects among the project managers in different units according to their specializing. For example, if the project is about building, they appoint manager in the Buildings construction unit in cooperation with related units. The issue that occurred here is that each project manager has its own daily tasks, responsibilities and roles rather than the project which he/she handles. The organization is somehow effective at focusing on accomplishing their daily tasks more than tracing the daily progress of the project. The management is focusing on the final output of the project whether it is huge or small ignoring the responsibilities of the project manager during the project cycle. This issue led the project managers to focus on their daily task more than the projects. Moreover, the responsibilities assigned to the project managers are not well defined leading to overlapping of duties and roles. Employees and managers always complain of role conflict hence derailing the process of ensuring that the objectives of the organization are achieved. This unclear definition of roles has affected negatively to the production capacity of the employees in the organization.

According to some project managers, there is no impetus or rather initiatives geared towards motivating the employees. Since there are vast difference in the salaries and allowances between permanent employees and the contracted ones, the organization has paid the contracted employees more than the permanent employees and this is clear issue in the organization. Thus, Most of the permanent employees in the organization are not committed toward achieving the goals of the organisation. This is

attributed to the fact that when employees are not motivated to increase their production, they tend to be relaxed and most of the time does not dedicate their time towards the organization. The permanent employees are not rewarded with good pay benefits, most of the times these employees have been complaining of poor payments. The employees have also complained of lack of promotions to those employees who dedicate their time and skills towards the achievement of the organizational goals. This is a problem leading to poor performance and payments of salaries to employees for the services, which have not been provided. This therefore is a situation, which cause losses to the organisation by paying salaries for the services that have not been done due to lack of commitment.

7. Recommendations and Conclusion

7.1 Recommendations

It is important for the management of the project portfolios, to carry out reexamination of their organisation and find out where these problems are emanating. The success of this organisation will only be achieved if it ensures organization in its services delivery through proper planning and selection of projects that they can best meet. Employees are also one of the important parts of the organization and therefore they require being motivated through better pay to make them increase their production. In addition, the organisation should carry out all system upgrade and evaluation and come up with better ways of performing its tasks. For instance, it should ensure that its employees are trained well and possess the required skills to be able to perform their duties designed to them well.

It is also important for the organisation to consider including their employees in decision-making process to make them feel part of the organization and contribute to the overall attainment of the organization objectives. When employees are involved in the decision of an organization they are able to feel good and feel that they are also being recognized and identified as an important part of the organization. An organization that does not engage in communication is as well as dead. Therefore, the organisation should enhance horizontal communication so that every person in the organization can be able to air out his/her views freely. This is also a way of motivating the employees so that they work hard. If all these are done, the organisation will turn its problems into opportunities performing exemplary well.

Overall Project Portfolio Management involves running of multiple projects simultaneously; each project has a contribution to the main project goal, it has all characteristics to a full project and need to be managed effectively.

Bob Buttrick, an expert in project management summarizes project management as interrelated activities that lead to final objectives. A project is attained through collaboration of number of people, managers, supervisors,

people on the ground and any contractors. The team and its combination should be selected and given the specific tasks that they are wanted to perform in the organization.

Before the project has been implemented, there is the need to have a team that is going to discuss the possibility and the expected outcome of the business the team that will involve itself in a market analysis program where it will correct data on various issues and analyses them.

Management of a project is at different level; each level has some mandate that it should take to ensure that the completion of the project is within a stipulated schedule. When managing a portfolio, managers work with summary and key data's; this is because they entrust different areas to the team heads and they have full believe that the leaders will be effective in their management. When information is represented in simplified form for example, in the form of charts, graphs and pie charts, then management gets a grasp of the entire project by a glance and avoids information overloads. Managers at team level have the mandate of keeping their section information and dispense it when needed in an appropriate manner. The manager should ensure that all the needed resources both physical and human resources are available; incase there is a deficit in any one area, the main analysis that the manager should do is to understand how long the project can run without the resources lacking. Project evaluation process is a crucial stage of project portfolio management; the process is used to evaluate different stages of projects systematically to estimate and gauge how much the stage is in line with the overall objective of the project. At the start, a stage where the section mangers should evaluate the business potential on whether it is still relevant and able to deliver the organizations' objectives. This offers the manager a chance to change direction and implement new systems in case the gate shows that implementing the project will lead to failure of the project. When there is continued evaluation, then a project is kept on pace and on Since the project level activities affect the efficiency of the PPM, PPM should consider the following:

- “Where the project is, and to what level is it attaining its set objectives”

- “In what way is the project managed? Is it in accordance to the accepted mode of conduct?”
- Is the project on line with the policies as set?
- Is there any benefit or progress?

The above guiding questions should be the process to follow, if any of them has a negative answer then the manager should realize that the project is not on course and may result to losses in the organisation. Alternatively if any of the answer is negative, there is a possibility that the area can be addressed separately and the personnel is involved be questioned for better improvement. There is a difference between some of the critical functions that need an optimal management and other that can be delayed; the evaluators have the role of differentiating them in that line.

Computers have developed a new platform of management of programs, they are now used as the tools of guiding and managing of projects; when selecting the tool and the software to use, a company needs to be careful to adopt that level of technology that is in line with the technology rate of the organization. Alternatively, large and small projects cannot be evaluated using a similar level of software and technology; management should ensure they have attained the most current yet the less expensive and most effective computer software.

Computer aiding systems can be in-house developed or they can be sourced from commercial markets, in whichever the way that they have been attained, and then the system should be responsive to the needs of the organisation’s projects. They need to have the capacity of interpolating of different issues and information then give the desired response to the managers for effective decision-making. Computers offer an effective management tool when the right technology has been used but when they have been misused, they can lead to failure and misguiding to an entire project.

The operators of computer aided project developments should have a good understanding of how the system works as well as understand the various logistics that are involved in the project at hand, it is by doing so that appropriate mechanism can be adopted.

An effective PPM system is likely to address the following areas

- Project evaluation process or methodology: give a framework of the pathway that the company should follow
- Cost and benefits measurement: evaluate the benefits and gains in every stage in the project, if there is a stage that is not fully operated, the system should be strong enough to alert the managers
- Progress reporting: the system should be able to check and report the progress of the system periodically and offer reports that can be used to improve the project, to be in a position to do this, the system should incorporate some checks and balances and have optimal performances levels.
- Communication of key project data: in management of a project, data and information is of essence, there is need to have timely and relevant data at all times. This will offer the much-needed resource to manage the project effectively: an effective system should have the ability to offer the required data when needed and portray the data in an acceptable manner.
- Resource and capacity planning: resources are limited, they need to be effectively managed and put in optimal use, an effective system should have the capability of offering a resource allocation tracking system
- Cost and benefits tracking: as the project unfolds, there is an urgent need to have all the areas on track, the system should ensure that it looks into the development of a project and make improvements changes where needed.

PPM software analysis the project as a whole and assist managers to have a better track of the project progress, they are of great benefit to management and they need to be of the right operation, failure to which a project will suffer. The main objective of an effective PPM is to put available resources into optimal use; resources are scarce so their management and utility is paramount in modern societies. Managers should understand that their main role is linking the laid down strategy with actual performance, they should understand that they should be the pioneers of development and

operation in the firm. When they fail to undertake effectively their duty, they should be assured they are leading their organization to failure.

The researcher introduces nine steps to revitalize the project portfolio process, he is of the opinion that before a project can be initiated, and the first thing that an entity should embark on is internal analyzing of its potential, and ways that the potential can be put in proper use. With limited resources and having a variety of mutually exclusive projects to undertake, the managers should ensure they select that project that offers maximum returns to the company.

The nine steps are:

1. Build momentum

To create synergy and keep a project running, a company needs to develop management elements and factors that can be used to motivate the team players to work hard; they should be encouraged through being shown the success they have made so as they can feel motivated to develop the project further.

2. Define business goals

A project can only be successful if there attainable goals and objectives set for the project. A project that is running blindly without a vision, mission and objective is bound to fail. After determining the cost points and all related expenses that will be incurred in course of the project, a budget that consolidates all the costs is prepared, the budget should analyze all the areas that the project will fulfill and ensure that expense floors and ceilings are made, since the future is unpredictable, it is important to have flexible budgets. In case a certain goal is not attainable, it should be abandoned.

3. Capture ideas

A project is bound to be faced with a number of risks; there is need for management to determine the risks that are to be associated with the project and develop adequate mitigation measures.

4. Be transparent

When managing a project, there is needed to have an honest management and team, this will facilitate the development of appropriate decisions making systems to the benefit of the company.

5. Prioritize

The minimal resources in the organization calls for project prioritization; there is need to consider the benefits that can be accrued from different projects and choose the project that effectively utilizes available resources and gives the highest yield to accompany. Considering the rate of risk of different tasks is also crucial.

6. Use efficient decision-making

Before implementation and after implementation of a project, a company should be taking an appropriate research on what the world is going through and make relevant reports that can aid in the management of the project. It is important to consider the following key report types:

- Single-page project report: this is a short report that offers a single but direct grasp of the project. It should be summarized to offer an overview of what the project is like and how it is expected to be.
- Budgetary information: it provides room for an aggregate roll-up on budgetary status; the main issue is to ensure there are resources for every project.
- Project dashboard: they have one-lie simplified reports on execution level and the progress of the project.
- Resource allocation view: a comparison of the current available resources and their chances of availability in the next 12 months
- Strategic alignment: reports that align the entire project with the role and goals of an organization.
- Flexible pivot table capabilities: it uses drag-and-drop pivot table-style analysis to offer management platform of answering certain questions pertaining the project as they arise.

7. Establish communication frameworks

Communication is important in development, initialization, concluding and making final reports of project. There is need to develop and maintain effective communication method. Managers should be able to offer directions and receive feedbacks from the ground using an appropriate communication method. Depending with the technology adopted and the nature of a project, communication can take different forms: they include online reports, word of mouth, and periodical letters. Project success can be measured in terms of the practicability of business relationships that is directly proportional to the quality of communication. Four communication weaknesses or barriers at entities are overload of messages, failure to share information among major stakeholders, failure to include employees in decision-making processes, and personal attributes. These barriers to effective communication should be addressed effectively so that they do not lead to the failure of a project. Organizational culture is complex with varied definitions. It includes custom, knowledge, belief, morals, and personal capabilities; it affects the communication efficiency in the organisation.

8. Conduct postmortems

To manage effectively projects, managers need to have an ongoing budgetary and analyzing method; they should never assume that since the project has been well planned; then that is the end of the story, they should understand that there are changes that might affect the project negatively thus they need to be checked effectively.

A constant review of the budget, periods and the final periodical results will assist project managers keep the project on its toes.

9. Improve continually.

Despite having an effective and elaborate project management, managers should be open to adapt new methods of doing things and better systems to attain their set goals and objectives. When well managed, the organisation can have synergy developed at different times within the organization for the betterment of the project.

Improvements and new systems of operation come from inventions and innovations made by employees and the changes of external environments, they should be incorporate and if they are for the benefit of the organisation, they need to be taken as part of the larger project.

Project managers should be open to criticism and incorporate inputs made by staffs regarding how the project can be managed. When making decisions, it should not be a one-man show; however, project team members and experts need to be incorporated. Despite the consideration of other people's opinion, project managers should understand that they have the final decision over the project and are responsible of their decisions.

7.2 Conclusion

Projects are the order of the day in private and public institutions; regardless of their size, they need to be managed effectively and be well planned. Internal multi-project environment management literature is limited however, this paper will attempt to bring forth some relevant areas in managing portfolios; it will use the limited resources and the intellectualism of the writer to develop materials that can be used in project management. At any, no time should be a project is initiated without the development of an attainable project goals and objectives. Project objectives are the goals and derivatives that a certain project is supposed to fulfill; the goals are in line with the organizations corporate goals and objectives.

When objectives are not well written, then the project is likely to lose focus along the way and never produce the expected results.

Effective PPM is crucial in project management; it gives management the time and the required information to manage a project effectively. When well implemented, a manager has less to worry on the achievement and fulfillment of a certain project. The system aligns projects objectives with corporate objectives that assist in proper management of projects. To have an effective PPM a project manager should ensure that there is information adequately needed for the maintenance of the project. With the project team at hand, the project charts and work breakdown schedules are developed, plan to give what will be done when and at what time is developed; it is important to note that some tasks can be delayed to future data and other are dependent on completion of other all this factors should be taken into consideration. The need for accurate and reliable information does not end with implementation of a project but spans to include updating of project information when the project is up and running.

7.3 Suggestion for Future Research

As mentioned earlier, the main aim for this research is to investigate the problem areas that affect the efficiency of the PPM in UAE government agencies. To have a complete view, the PPM practices and activities should be properly investigated and how it contributes to the project and organization success.

Another important issue is that how the UAE project based government agencies measure their maturity level of PPM and how they map the organization goals with the PPM goals.

Also, the role of the project owner or sponsor in project and PPM success could be other future subject to study.

References:

- Abdul-Rahman, H., Takim, R., Min, W. "Financial-related causes contributing to project delays." *Journal of retail & leisure property*, (2009), 8(3); P225-238.
- Adri Platje, A. Seidel, H. and Wadman, S. "Project and portfolio planning cycle Project-based management for the multi-project challenge ". Vol I2 (1994). P. 100-107
- Adler, S. "Getting the most out of your product development process. *Harvard business review*, (1996); 47: p.134-146.
- Ahmed, M., Azhar, S., Kappagntula, P., and Gollapudial, D. "Delays in construction:A brief study of the Florida construction industry." (2003) P257-266.
- Assaf, A., and Al-Hajji, S. "Causes of delay in large construction projects" *International journal of project management*, 24(2006) P349-357.
- Alaghbari, W., Kadir, A., Salim, A. and Ernawati. "The significant factors causing delay of building construction projects in Malaysia." *Engineering, construction and architectural management*,(2007); 14(2): P192-206.
- Angling, Michael. "Assessing the relative priority of projects". *Project management*, 3(1985) P114-120
- Archer, N., & Ghasemzadeh, F. "An integrated framework for project portfolio selection" *International journal of project management*, 17(1999) P207-216
- Archer, N., & Ghasemzadeh, F. "An integrated framework for project portfolio selection" *International journal of project management*,(1999) P117-133.
- Artto, K. "Management of project-oriented organization-conceptual analysis" *Project Management: strategic management through projects*, (2001) P5-22.
- Bambacas, M. and Patrickson, M. (2008). Interpersonal communication skills that enhance organizational commitment, *Journal of Communication Management*, 12(1), 51-72.
- Barratt, M., Choi, T.Y. and Li, M., (2010). Qualitative case studies in operations management: trends, research outcomes, and future research implications. *Journal of Operations Management*, pp 1-14.
- Blichfeldt, S. and Eskerod, P. "There's more to it than what management enacts". *International Journal of Project management* 26 (2008) P.257-365.

Bodil Stilling Blichfeldt, and Pernille Eskerod . "There's more to it than what management enacts". International Journal of Project management 26 (2008) P.257-365.

Brownell, J. (2003). Applied research in managerial communication: The critical link between knowledge and practice, Cornell Hotel and Restaurant Administration Quarterly. 44(2), 39.

Cooper, R. G. "The invisible success factors in product innovation." Journal of Product innovation Manangement, 16, 2(1999), P115-133

Dean, V. "Multiproject staff scheduling with variable resource constraints." 39(1992) P59-72.

Dye LD, Pennypacker JS. "An introduction to project portfolio management. Project portfolio management, (1999) P.xi-xvi

Engwall mats, Jerbrant Anne. "The resource allocation syndrome: the prime challenge of multi-project management?". International journal of project management. 21(2003) P403-409

Feldman, Jonathan. "The new project management: Give fresh meaning to PMO" (2010) P14-26.

Fellows, R. and Liu, A. (1997), *Research Methods for Construction*, Blackwell Science, Oxford.

Fricke, E. Shehhar, J. "Managing multiple engineering projects in a manufacturing support environment." (2000) 47: P258-268

Hendriks, Voeten and Kroep. "Resource capacity allocation and project portfolio planning in practice" International journal of project management, 17(1999) P181-188

Hyari, K. and El-Rayes, K. "Optimal Planning and Scheduling for Repetitive Construction Projects", journal of Management in Engineering, 22 (2006) P11-19.

Kao, H. Brian, W. Dong, J. Ku, K. "An event-driven approach with makespan/cost tradeoff analysis for project portfolio scheduling" Computers in Industry, 57(2006) P379-397.

Kelly, D. (2000). Using vision to improve organizational communication, Leadership & Organizational Development Journal, 21(1/2), 92-101.

Kendall, G. and Rollins, S. (2005) Advanced Project Portfolio Management and the PMO: Multiplying ROI at Warp Speed, Available from: J. Ross Publishing, Inc.

Kotter, P. (1995), Why transformation efforts fail, Harvard Business Review, 73(2), 12-20.

Kuprenas, J. "Project manager workload-assessment of values and influence." Project management journal, 31(2000) P44-51.

Lawrence S. Gould "Introducing Product Portfolio Management". Automotive Design & Production, 121, 1, (2009), P40-41

Levinson, M. "Strategy for success; new project management research indicates that to be successful, projects must tie directly to business strategy, and project managers must understand how the project supports the strategy." (2010). 23(6)

Levy, N. "Improving multiproject management by using a queuing theory approach." Project management journal, 28(1997); P40-46.

Lo, Y., Fung, H., and Tung, F. "Construction delays in Hong Kong civil engineering projects." Journal of construction engineering and management, (2006), 132(6) P636.

Maio, A. Verganti, R. Corso, M. "A multi-project management framework for new product development" European journal of operational research, 78(1994) P178-191.

Markham SK, Holahan PJ. "Political behaviour in the product development process" the PDMA handbook of new product development. (1996) P107-117

Martinsuo, M. and Lehtonen, P. (2007) Role of single-project management in achieving portfolio management efficiency, pp. 56-65, Available from: www.elsevier.com/locate/ijproman

Meskendahl, Sascha. "The influence of business strategy on project portfolio management and its success- A conceptual framework" International Journal of Project Management, 28(2010) p807-817

Miia Martinsuo, and Paivi Lehtonen. " Role of single-project management in achieving portfolio management efficiency ".International Journal of Project Management 25 (2007) 56–65.

Miller, B. (2002) Portfolio Management: Linking Corporate Strategy to Project Priority and Selection, Available from: www.pmsolutions.com

Mikkola, J. (2001) Portfolio management of R&D projects: implications for innovation management, pp. 423–435, Available from: www.elsevier.com/locate/technovation

Muller, R. and Turner, R. (2007) The Influence of Project Managers on Project Success Criteria and Project Success by Type of Project, pp. Vol. 25, No. 4, pp. 298–309,

Muller, R. and Turner, R. (2007) Leadership competency profiles of successful project managers, Available from: www.elsevier.com/locate/ijproman

Muller, R., Martinsuo, M., Blmquist, T. (2008) "Project portfolio control and portfolio management performance in different context." Project Management Journal, 39(3), P28-42.

Munns A K and B F Bjeirmi (1996), " The role of project management in achaiving project sucseess". International journal of project management, vol.14,no.2, pp 81-87, 1996.

Naylor, G., (1999). Using the business excellence model to develop a strategy for a healthcare organisation. *International Journal of Health Care Quality Assurance*, 12(2) pp 37-44.

Nkasu, M. Leung, K. " A resources scheduling decision support system for concurrent project managment" International journal of production research, 35(11), (1997), P3107-3132.

Patanakul, P. And Milosevic, D. "The effectiveness in managing a group of multiple projects: Factors of influence and measurement criteria" international journal of project managment, 27 (2009) P216-233.

Patanakul, P. Milosevic, D. "A decision support model for project manager assignments." 54(2007) P548-564

Patanakul, P. Milosevic, D. "Assigning new product projects to multiple-project managers: what market leaders do" 17(2006), P53-69.

Payne, J. "Managment of multiple simultaneous projects: a state-of-the-art review." International journal of project managment, (1995), 13(3) P163-168.

Payne, J. "Introducing formal project managment into a traditional, funtionality structured organisation" interantional journal of project management, (1993), 11(4) P239-243.

Perttu Dietrich ,and Paivi Lehtonen. "Successful management of strategic intentions through multiple projects – Reflections from empirical study ". International Journal of Project Management 23 (2005) 386–391.

Ralf Muller, Miia Martinsuo, and Tomas Blomquist. " Project Portfolio Control and Portfolio Management Performance in Different Context ". Project management journal (2008). P 28-42.

Robert G. Cooper, Scott J. Edgett, and Elko J. Kleinschmidt. "New Product Portfolio Management: Practices and Performance ". J. Prod. Innov. Mng. (1999) ; 16: P 333- 351

Robert G. Cooper, Scott J. Edgett, and Elko J. Kleinschmidt. " New Problems, New solutions: Making Portfolio Management More Effective ". Research Technology Management (2000). Volume 43, Number 2.

Sambasivan, M. and Soon, W. "Causes and effects of delays in Malaysian construction industry." International journal of project management, 25(2007); P517.

Shepperd, M. "Estimating software project effort using analogies." Software engineering, 23(1997) P736-743.

Spuhler, W. Biagini, G. "The role and weaknesses of top management in internal projects" Handbook of management. (1990).

Stamelos, I. and Angelis, L. "Managing uncertainty in project portfolio cost estimation." Information and software technology, 43(2001) P759-768.

Suvi Elonen, and Karlos A. Artto. " Problems in managing internal development projects in multi-project environments ". International Journal of Project Management, 21 (2003). P. 395–402.

Turner, J. R., & Muller, R. "the nature of the project as temporary organization" International journal of project management, 21 (2003) P1-7.

Turner, J., Cochrane, R. "Goals-and-methods matrix: coping with projects with ill defined goals and /or methods of achieving them" International journal of project management, (1993) vol.3(2) P93-101.

Tomas Blomquist, and Ralf Muller. " Practices, Roles, and Responsibilities of Middle Managers In Programme and Portfolio Management ". Project Management Journals (2006). P. 52-66.

Wessels, D. (2007) The Strategic Role of Project Management, Available from: <http://www.pmworloday.net>

Wettmann, A. "The project management predicament." (2010), iss. 1273, P48.

Website of Project Management Professional:
http://www.en.wikipedia.org/wiki/Project_Management_Professional

Website of Project Smart 2000-2008: <http://www.projectsart.co.uk>

Website of Project Management Professional:
http://www.en.wikipedia.org/wiki/Project_Management_Professional

Yin Robert K (2003), "Case Study Research ; design and methods" third edition, volume 5.