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Public Values and Project Management Practices & Processes in the Public Sector in the case of the State of Qatar

Al-Hajri, Sama

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By

Sama N. Al-Hajri

Supervisors:

Prof. Konstantinos I. Nikolopoulos

Dr. Azhdar Karami

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at Bangor University

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3	Exp.	Expert	164
4	FFs	Failure Factors	65
5	GCC	Gulf Cooperation Countries	65
6	Gov.	Governmental Institution	163
7	Int.	Interviewee	127
8	KM	Knowledge Management	25
9	KPIs	Key Performance Indicators	23
10	KPQs	Key Performance Questions	23
11	KS	Knowledge Sharing	25
12	MDPS	Ministry of Development Planning & Statistics	66
13	NPM	New Public Management	41
14	PBO	Project-Based Organizations	56
15	PM	Project Manager	2
16	PMBOK®	Project Management Book of Knowledge	7
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27	PSM	Public Service Motivation	37
28	PV	Public Value	2
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Executive Summary

This dissertation discusses three important issues. First, it highlights previous attempts to asses public projects and to apply Public Value Theory developed by Moore (1995) in real case studies. Second, it focuses on developing an assessment tool that aims to evaluate public projects, which focus more when comparing to private projects on creating non-financial values that are needed and expected by the public. Third, it provides findings of the application of the proposed tool in three different public projects in Qatar. The methodology consists of two main phases: exploratory and confirmatory. During the exploratory phase, the researcher investigated previous public reports and attempts to apply project management in the public sector. The researcher then conducted questionnaires and semi-structured interviews with project managers from 14 different governmental organizations in Qatar. The sample size for the questionnaires was (n=118) with (93) complete responses. The outcomes of the exploratory phase helped to form the proposed assessment tool which combine project management best practices and processes with Public Value Theory & Critical Success Factors developed by Fortune & White (2006). During the exploratory phase, this established tool was applied on three public projects and the findings showed that the tool was effective and can help project managers in the public sector, providing powerful evidence of creating Public Value. Data collecting and proposed tool application was conducted in Qatar, where there is a lack in similar research that dicusses project managaement practices and processes in the public sector as well as previous attempts to create PV.

1

Chapter 1: **General Introduction**

1.1 Introduction

The research discusses Project Management Practices and Processes (PMPPs) in the public sector, and aims to investigate the current practices and processes in Qatar, as an example. The research focuses on identifying the current PMPPs applied in the public sector to suggest a suitable assessment tool designed with the aim of creating '*Public Value*' (PV). The latest initiative of Qatar National Project Management (QNPM) in 2006 was taken into consideration, as a previous attempt to implement best PMPPs in the country, to update the methodology used with the focus of creating PV through PMPPs in the public sector.

The second chapter presents the related literature from an international perspective to allow a focus on the difficulties facing project managers (PMs) in the public sector with different experiences, along with findings from empirical studies. There are examples of best PMPPs in private and public sectors and an overall discussion of the latest and best-used tools and techniques is also provided. Researchers' previous attempts to measure project success or failure are presented and discussed to choose the most relevant criteria. The presented literature helped to identify the gap of knowledge and the importance of research to answer the calls of researchers to practice the PV (Moore, 1995; Symes, 1999), and to apply research to develop and evaluate new techniques, examine successful conditions, and set guidelines for application (Gnan, Hinna, and Monteduro, 2014).

In chapter three, there is an introduction to the characteristics of the public sector in Qatar. Qatar, as a yet developing country according to the United Nations, that tries to enhance the public services quality and considered as a developed country for having the highest gross domestic product (GDP) per capita ($143,788)[1]. Qatar is demanded to prove its place among developed countries by achieving a high level of public sector services like transportations and education, which can be reached by fulfilling the goals of Qatar National Vision (QNV) 2030. The current research aims to reveal PV existence and whether there had been any successful attempts to create it and what are the best PMPPs to create PV according to previous literature and data collecting findings. QNPM (2006) is presented also and discussed to specify the limitations of it to focus on them in designing the proposed tool.

[1] https://www.quora.com/Why-does-the-United-Nations-UN-consider-Qatar-as-a-developing-country-despite-it-being-the-richest-country-in-the-world

Chapter four presents and discusses the proposed theoretical framework of the study, that selects elements of PMPPs and Critical Success Factors (CSFs) to create a model for an operational assessment tool that targets the creation of PV as the core aim. There is also an overview of related project management and PV models and theories.

The fifth chapter presents the methodology, in which mixed methods are used to achieve the objectives of the study. The methodology consists of exploratory and confirmatory phases. In the first phase, public reports are examined, unstructured interviews are carried out, and finally questionnaire accompanied with semi-structured interviews are conducted. The second phase relates to case studies in which newly developed tools are applied and interviews with observations are implemented.

The sixth chapter discusses the first phase of data collecting to gather the required information to be used for designing the proposed evaluation tool. Unstructured interviews with decision makers and a research sample of PMs are analysed to relate the findings to the components of the developed assessment tool. There is also a detailed explanation of the questionnaire, which examines the relationships between PMPPs and PV and the level of applying PV through the project life cycle.

Chapter seven presents the findings of the 14 semi-structured interviews, which are conducted with PMs from different ministries in Qatar during the exploratory phase. These interviews are carried out after analysing the results of the questionnaires in order to collect enough information to design the new assessment tool.

The proposed assessment tool is presented in chapter eight. It is designed according to what had been suggested throughout the literature and from the findings of field work. The tool is conducted as case studies of three different public projects in parallel to the current assessment methods used by the PMs. A comparison is drawn with significant results declaring the effectiveness of the proposed tool as a suggested assessment system for the public sector in the future.

Chapter nine discusses the case studies' results, gleaned from three public projects from two different governmental institutions. The proposed evaluation tool is applied and semi-structured interviews are conducted to measure the impact of this tool on public projects. Observation results are highlighted to further show how effective and necessary the tool is in the research environment, taking into consideration the characteristics of each project.

The final chapter, chapter ten, discusses the achievements of the research goals and objectives. It also explains the research contributions, lessons learned and limitations, and provides recommendations for future research.

1.2 Rationale of the Research

The research contributes to the public sector by finding an assessment tool that aims to provide evidence of creating PV. There is currently a lack of assessment tools that are designed to be applied on public projects, which focus more when compared to private projects on creating values that are derived from public needs. The focus of this study is on public projects as defined by Kassel and Berman (2010); "*The application and integration of project planning, selecting agents, enacting agreements, and monitoring and controlling work to achieve a unique public-sector project vision*."

According to Kassel and Berman, classifying a project as a public project determines that it is funded by the government, or from the taxes in some countries, to serve the public directly. So even if a project is undertaken by a private company as the case of some Public-Private Partnerships (PPPs) projects, it is still funded by the government and classified as a public project. PPPs in the Gulf region are concerned mainly with water, energy, and transportation sector. Qatar has no special law yet to relate to PPPs, but it is starting recently to focus more on these types of projects by initiating a new law, which is in its final stages of approval (Pierson, Bailey and Turrini, 2017; The Peninsula Qatar, 2017).

The project management field has been dominated by the private sector for decades and the application of project management in the public sector has been less common. PMs seek to create values out of projects; financial values for the private sector and non-financial values for the public sector. PV, as a theory, is associated with the authority of public managers in creating '*public values*' (PVs) through operations and processes (Moore, 2013). Some private projects can seek partially the creating of public values by itself, or by cooperating with public sector as the case of PPPs projects, but it is not the focus of this study.

The research is designed to find a more practical method to apply PV in reality. Previous attempts at PV shared the theoretical aspect and lacked the accomplishment in terms of its application in real public projects. Among those attempts are using PV as a strategic tool that can help decision makers and TMs to ascertain the critical issues in relation to applying PV in their organizations (Moore, 2003; Moore, 2013). Others deal with PV as a criterion for success (Hills & Sulivan, 2006), as a comprehensive model (Talbot, 2008), or as

an analytic tool that can measure the performance of an administrative system (Try & Radnor, 2007). In spite of previous attempts, researchers expressed the urging need for practising new techniques to practice PV and apply research to develop and evaluate new techniques, examine successful conditions, and set the guidelines for the application (Helden and Northcott, 2010; Guthrie, Evans, and Burritt, 2014).

The proposed assessment tool is suggested as a useful solution for practitioners in the field to be able to align a theory to practice producing public projects that can compete with private projects and create values for the community using best practices and making the most of professional capacities. Such a competition between public and private sectors can help in adding trust to the public sector as the increasing demand to shift to new techniques in addressing rapid challenges (Gomes et al., 2008).

1.3 Purpose of the Study

The main purpose of the study is to address the difficulty encountered in measuring performance in the public sector, which has a noticeable impact on the level of performance compared to the private sector. As referred to by Rantanen et al. 2007, measuring the performance of public projects should be built upon outcomes, which is not clear in public sector and is of a great impact on the project success. Therefore, the study adds value by offering a combination of project management practices and the Public Value Management (PVM) approach to develop a new assessment tool for projects in the public sector.

1.4 Aims & Objectives

This study aims to:

1. Compile a holistic framework of PMPPs in the public sector.
2. Develop a deductive project management assessment tool.
3. Evaluate the proposed assessment tool through observation, qualitative and case study research - predominantly in Qatar.

1.5 Research Questions

1.6

The main question is:

Is Public Value an important aspect in PMPPs in public Sector in Qatar?

The study aims to answer the following questions in order to answer the main question;

1. What is the current application of Public Value in PMPPs in Public Sector?
2. How can PV be used as an assessment tool for Public Sector projects?
3. How effective[2] is the proposed assessment tool?

The first aim and question of the study is to find out about current PMPPs in the public sector from literature that shall guide the study with the focus on related studies discussing PV creation in both international and local perspectives.

The second aim and question focus on using the outcome of the literature review and the results of data collecting from questionnaires and interviewes to develop a tool that aims to assess the performance of public projects. Within this deductive tool, indicators are created (Gill & Johnson, 2010) and inspired by the outcomes of the literature review and the findings of the data collection proccess, which gives a current indication of the application of PV in the state of Qatar, where the case studies applied and there is lack in related literature. In order to answer the second question, current PMPPs, tools and models are studied and investigated within the second, third, and fourth chapters of the current study. This extensive study is aligned with the updated findings from the data collection process to help in creating the proposed tool.

To achieve the third aim and question, public projects in Qatar are chosen to test and evaluate the proposed assessment tool. The outcomes of the data collection and the tested relationships between PMPPs and PV align with the literature review in terms of challenges and requirements to reach success in delivering public projects. The characteristics and use of the proposed tool is explained in chapter 8, while the findings of applying it is discussed in chapter 9 along with the case studies outcomes. The results of the study can not be generalised to other countries, however it can be confirmed by further studies in order to generalise the findings.

1.6 Conribution of the study

The study contributes in providing a new assessment tool that is tested in a country like Qatar, where more recent studies are needed in this area and calls to achieve public sector

[2] Refers to "*the degree to which objectives are achieved and the extent to which targeted problems are solved.*" http://www.businessdictionary.com/definition/effectiveness.html

goals and visions are increasing. The study aims also to practice the PV application in public sector as demanded by reserachers and practionners (Helden and Northcott, 2010; Guthrie, Evans, and Burritt, 2014).

Contributions of the current study can be noticed also in trying to empower the project management field with theories like PV (Bozeman and Johnson, 2014), and innovation of new models and tools away from traditional known ones (Matinheikki et al., 2016). In addition, developing of the proposed tool took into consideration the recommendation by Laursen and Svejvig (2016) to join basic knowledge offered by Project Management Body of Knowledge PMBOK® with the benefits of PRINC2[3].

1.7 Research Process

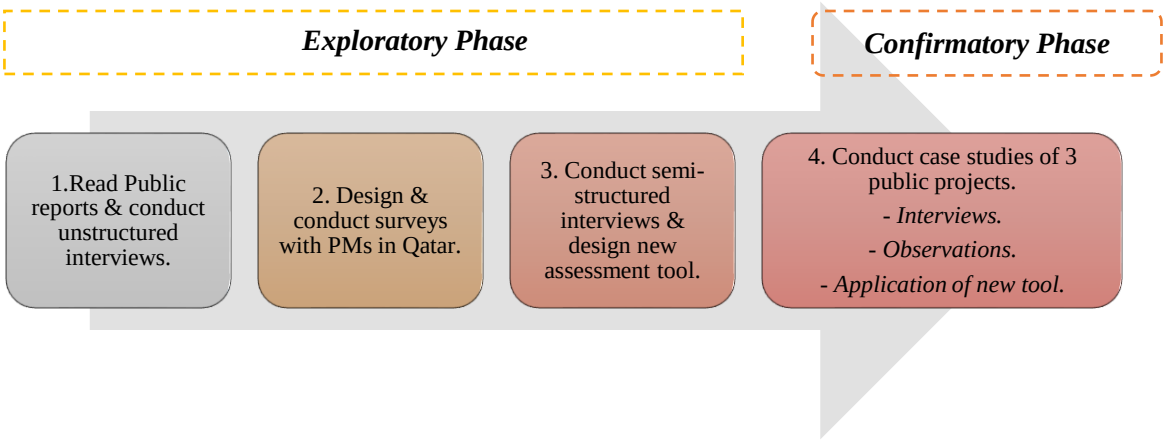

Figure -1- Research Process

[3] PRINCE2: **PR**ojects **IN** **C**ontrolled **E**nvironments. *is a de facto process-based method for effective project management used extensively by the UK Government, PRINCE2 is also widely recognized and used in the private sector, both in the UK and internationally* (Prince2.com, 2017).

Chapter 2: **Literature Review**

2.1 Introduction

The second section of this chapter aims to meet the first objective of the current study in terms of providing an in-depth literature review of previous and current PMPPs in the public sector from researchers and practitioners worldwide. This intensive review of PMPPs in general helps in understanding the third and fourth sections that focus on performance measurements and PMPPs in public sector. This helps in answering part of the first question, which is about the current application of PV in public sector, while the other part of the answer is provided by the findings from the data collecting process. Designing the questionnaire items and the interview questions depend on the studies investigated in this chapter.

The fifth section compared between public and private projects to determine the strength and weaknesses in each type, while the sixth and seventh sections introduces PV and explains its importance by discussing different international case studies. The information provided in this chapter with the findings from chapter 6 and 7 help in forming the components of the proposed tool as one of the gaps in literature is the need to practice PV creation in public project, which to be explained in detail in the current chapter and chapter 4. It also helps in meeting second aim of this study as long as providing essential elements in order to answer the second question about existening guideline to use PV as an assessment tool in public sector.

The third aim to evaluate the proposed tool and the the third research question that relates to determining how effective is this tool are met and answered in chapters 8 and 9. Some studeies within this chapter are mentioned later in the final chapters to focus on filling the gaps in literature, achieving objectives of the study, and answering the research question.

2.2 Project Management Practices and Processes (PMPPs)

PMPPs are used by PMs in both private and public sectors around the world. To discuss such practices and processes in details, it is necessary to clarify the term '*project'* and '*project management'*.

Young (1996) defined a project as "*a collection of linked activities, carried out in an organized manner with a clearly defined start point and finish point, to achieve some specific results that satisfy the needs of an organization as derived from the current business plans."* Munns and Bjeirmi (1996) defined a project as *"the achievement of specific objectives, which*

involves a series of activities and tasks which consume resources. It has to be completed within a set of specifications, having definite start and end dates." A recent definition commonly used for a project is "*a temporary endeavour undertaken to create a unique product, services or result*" (PMI.org, 2015).

Project management is "*the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements"* (PMI.org, 2015). Young (1996) defined project management as "*a dynamic process utilising the appropriate resources of the organization in a controlled and structured manner, employed to achieve a change clearly defined with specific objectives identified as strategic needs."*

Munns and Bjeirmi (1996) defined project management as "*the process of controlling the achievement of the project objectives. Utilising the existing organizational structures and resources, it seeks to manage the project by applying a collection of tools and techniques, without adversely disturbing the routine operation of the company. The function of project management includes defining the requirement of work, establishing the extent of work, allocating the resources required, planning the execution of the work, monitoring the progress of the work and adjusting deviations from the plan."*

Many researchers have attempted to define project management (Atkinson, 1999):

- "*It is the application of a collection of tools and techniques (such as the Critical Path Method (CPM) and the matrix organization), to direct the use of diverse resources toward the accomplishment of a unique, complex, on-time task within time, cost and quality constraints. Each task requires a particular mix of these tools and techniques structured to fit the task environment and life cycle (from conception to completion) of the task*" (Oisen, 1971).
- "*The planning, monitoring and control of all aspects of a project and the motivation of all those involved in it to achieve the project objectives on time and to the specified cost, quality and performance*" (British Standard for Project Management, 1996)
- "*The planning, organizing, monitoring and controlling of all aspects of a project and the motivation of all involved to achieve the project objectives safely and within agreed time, cost and performance criteria. The project manager is the single point of responsibility for achieving this"* (UK Association of Project Management).
- Project management "*is a combination of management and planning and the management of change*" (Reiss, 1993).

- Project management "*plans, co-ordinates and controls the complex and diverse activities of modern industrial and commercial projects"* (Lock, 1994).
- Project management is "*a specialised management technique, to plan and control projects under a strong single point of responsibility"* (Burke, 1993).
- Project management is "*the art and science of converting vision into reality*" (Turner, 1996).

Previous definitions of project management focus on tools and techniques and the importance of meeting the three constraints of time, budget, and quality. The current research adopts definitions provided by Munns and Bjeirmi (1996) and PMI.org to focus on both general and practical aspects of project management.

Pinto and Kharbanda (1996) forecasted the future importance of project management and suggested that in the 21st century it would overtake traditional management schools (Maylor et al., 2006). In their study, Maylor et al. (2006) reviewed projectivization in terms of previous work in this domain. Midler (1995) defined projectivization as "*the process which took place in a series of changes in the structures for the organization.*" This can be seen in transferring traditional management systems to *'project-based organizations*.' Maylor et al. (2006) discussed issues related to this phenomenon such as shifting the *"power from line managers to project managers or directors*", benefits being assigned upon the result of each project rather than overall benefits or outcomes, and the requirement for *"competencies to plan, resource, and execute these projects.*"

Project management as a process needs human effort, a PM and a team to achieve the vision and fulfil the mission of the organization. When trying to focus on what a competent PM should do, the related literature points to the three main assumptions of *"the classical perspective; uncertainty, interpretation of information and interdependency and cooperation"* (IPMA, 2006; Bredillet *et al.*, 2015). Bredillet et al. (2015) discussed the components of a '*good*' manager. One of the related concepts is '*competence*', which is broken into two sections, the *'attribute-based*' and the *'performance-based*'. The former includes input and personal competencies. Input competencies are "*the knowledge and understanding, skills and abilities that a person brings to a job*". Knowledge is defined as "*information pertinent to specific content areas*", while skills are "*the abilities to perform certain physical or mental tasks through qualification and experience*". Personal competencies are "*the core personality characteristics underlying a person's capability to do*

a job". Regarding the performance-based section, this is identified by output competencies, which are "*the ability to perform the activities within an occupational area to the levels management expected in employment*". From the definitions of competences, a PM should possess attributes to fulfil the role and show a certain level of performance (Crawford, 2005; Bredillet *et al.,* 2015).

Loufrani-Fedida and Missonier (2015) defined competence as *"the ability of an individual, a team, or a company to mobilize and combine resources (i.e., knowledge, skills, and attitudes) in order to implement an activity in situation.*" Meanwhile, competent management is *"the set of managerial actions taken by one or more organizations to identify, construct, and develop competencies*." They concluded in their study that using PMPPs brings several advantages to the organization. It enables *"reaching decisions through formal meetings, distributing a common language, understandings among project actors, and condensing their efforts on the core issues*."

The role of public PMs goes beyond classic management to establish values and contribute to society. For that reason, it is important for the decision makers, managers, and employees in the public sector to have access to information to make good decisions and to guide their management process (Wettenhall, 2011). In their study, Medina & Medina (2014) raised the issue of the PMs' involvement in the organization's competence in a large project-oriented Swedish organization. They found that the PMs' involvement was very limited especially when it came to the internal promotion of team members. The highest level of the PMs' involvement was found in the team member selection phase, but for other phases like training and evaluating, their role was too limited. They also insisted on the proven relationship between internal promotion and performance management having a great impact on the organization competence. This indicates that there is a need for more specification of the role of PMs after a careful study and investigation into the areas of organizational performance that will be affected by their contribution.

2.2.1 Portfolios, programs, and projects

PMBOK® (2013) classifies a portfolio as "*a collection of programs, sub-portfolios, and operations managed as a group to achieve strategic objectives*." Programs are part of the portfolio and divided into '*subprograms*' or other smaller units like '*projects*'. Methods of project portfolio management help to choose the most suitable projects by applying financial and non-financial appraisal and evaluation models (Jenner, 2010; Serra and Kunc, 2015). The

appraisal phase takes place at the beginning of the project in order to support the acceptance of the project, but the evaluation phase occurs at the end of the project to declare if it is a success or a failure (Jenner, 2010; Zwikael and Smyrk, 2011; Serra and Kunc, 2015).

There are three types of programs according to Ferns (1991): '*strategic, business-cycle, and single objective' programs*' (Stettina and Hörz, 2015). Strategic programs are directly related to implementing the organization's strategy. Business-cycle programs are related to projects group that consist of time delivery, referred to as '*Portfolio Management'*. Lastly, single-objective programs are large and divided into sub-projects. Miterev, Engwall and Jerbrant (2016) used Pellegrinelli's (1997) classification of programs in their study. According to Pellegrinelli, programs are of three types: '*portfolio programs, goal-oriented, and heartbeat.*' A noticeable level of coordination is seen in the first type, where organising programs into a portfolio provides more efficiency and effectiveness in achieving outcomes. For the second type, '*goal-oriented*' programs refer to an '*extraordinary*' set of projects that aim to change current procedures. The third type is known as the heartbeat type that relates to programs that aim to "*achieve evolutionary improvement*" and enhance organizational operations (Miterev, Engwall and Jerbrant, 2016).

Project Portfolio Management (PPM) describes processes that aim to *'identify, prioritize, allocate, balance, and review projects within a portfolio*.' The goals of PPM are *''maximization of the portfolio's financial values, linkage of the firm's strategy to the portfolio, and balancing the project within the portfolio with respect to the organization's capacities*" (Martinsuo and Lehtonen, 2007; Stettina and Hörz, 2015). Kerbs (2008) split portfolio management into three categories: *'project, resources, and asset portfolio management.*' He also described certain challenges in these three areas. For the first type, the project portfolio can face an increasing number of active projects and a lack of projects being organised into categories. The second type, the resources portfolio, has shortcuts in vision, mismatching resources with projects, and a *'lack of feedback*.' The final type known as the '*asset portfolio'* is related to '*systems, applications, and materialized project*.' Challenges related to this type can include sticking to old and rigid methods in estimating costs (Stettina and Hörz, 2015).

Andersen and Jessen (2003) differentiated between project management which "*involves the management of individual projects*", program management which refers to "*a collection of projects with a common objective*", and portfolio management which "*concerns*

the management of a number of projects and programmes that do not necessarily share a common objective but are undertaken simultaneously" (Maylor et al., 2006). There are also differences between program managers and PMs. Programs managers should be more flexible to deal with '*uncertainty and ambiguity*', change management, '*leadership competence*', and interacting with stakeholders (Miterev, Engwall and Jerbrant, 2016).

Butt, Naaranoja and Savolainen (2016) focus on the impact of "*communication routine on facilitating the engagement of the stakeholders in the change management process*." They applied their study to two different projects and concluded that the used communications methods helped in providing "*guidelines for the teamwork and empowered stakeholders, which helped in improving the decision-making process*es." Changes can have a critical impact on the project's success whether such changes be direct or indirect (Moghaddam, 2012; Butt, Naaranoja and Savolainen, 2016). Direct impacts include the following: "*additional work, deletion of work, demolition of work already done, re-work, specification change, time lost in stopping and restarting current work, revision in project reports, drawings and documents, reschedule to make up for the lost time, and others.*" Meanwhile, indirect impacts include "*stringent stakeholder relationships, decrease in the interest and engagement of resources, loss of productivity during construction, increased risks related to coordination and scope interfacing, change in the cash flows, and increased critical tasks in project time schedule.*"

Project Management Offices (PMOs) are established to serve the organization's main strategy and to support the success of projects and programmes (Desouza and Evaristo, 2006). The responsibilities of the PMOs include supporting knowledge of project management, project processes and procedures, training project teams, project resources, PPM, and project financial management. PMOs provide administrative support to the organization. They also fulfil a knowledge-intensive role in managing the best practices of project management, learning from projects (failure/successes), and improving the maturity of project performance. PMOs of this nature are known as '*Supporters*'. The other type of PMO is the '*knowledge-intensive*' PMO. These provide information about projects, tasks, and resources for managers.

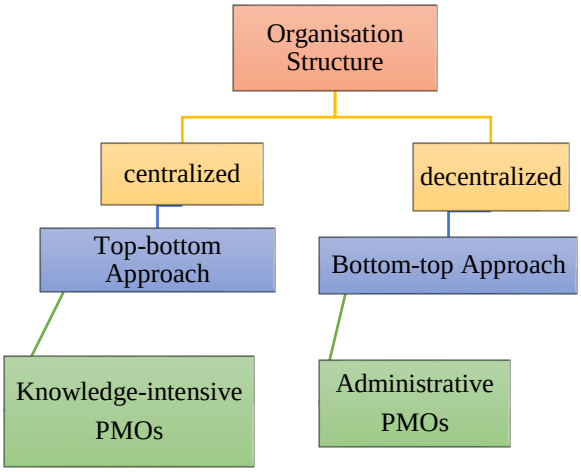

Figure-2- Types of PMOs- (Desouza and Evaristo, 2006)

Aubry et al. (2007) discussed the importance of PMOs in project-oriented organizations with some of them having nearly 75 unique functions. The PMO is defined in this study as *"an organizational body or entity assigned various responsibilities related to the centralized and coordinated management of those projects under its domain. The responsibilities of the PMO can range from providing project management support functions to actually be responsible for the direct management of a project*". They argued that judging a project on whether it succeeds or not is not a sufficient means of measuring the results compared to the deep meaning of the organizational project management process, which cannot be measured by an individual success system. Therefore, they differentiated between organizational project management and project governance because the latter is a set of formal principles and processes, which is designed and agreed upon with respect to governmental rules.

PMBOK® (2013) defines project governance as '*the alignment of project objectives with the strategy of the larger organization.*' Project governance helps to produce "*a framework for (ethical) decision-making and managerial action which builds on transparency, accountability, and defined roles*". Governance of projects and project management exists within the corporate governance framework and comprises the value system, responsibilities, processes and policies that allow projects to achieve organizational objectives and foster implementation that is beneficial for stakeholders and the corporation itself' (Muller, 2009; Muller et. al, 2015). Organizational enablers for project governance are steering groups, flat and flexible organization structures, PMOs, project management methodologies, clearly defined roles, meetings schedules, and top management support

(TMS) (Muller, Pemsel, and Shao (2015). An effective project governance structure is one of the major factors behind a project's success (Lechler and Diver, 2010; Zwikael and Smyrk, 2015).

There are certain terms when dealing with the Project management field. The following terms are taken from the PMBOK® (2008):

Activity: *"A component of work performed during the course of a project.*"

Baseline: *"An approved plan for a project, plus or minus approved changes. It is compared to actual performance to determine if performance is within acceptable variance thresholds."*

Change Control System (Tool): *"A collection of formal documented procedures that define how project deliverables and documentation will be controlled, changed, and approved."*

Crashing (Technique): *"A specific type of project schedule compression technique performed by taking action to decrease the total project schedule duration after analysing a number of alternatives to determine how to get the maximum schedule duration compression for the least additional cost.*"

Critical Path Methodology (CPM) (Technique): "*A schedule network analysis technique used to determine the amount of scheduling flexibility (the amount of float) on various logical network paths in the project schedule network, and to determine the minimum total project duration.*"

Deliverable (Output/Input): *"Any unique and verifiable product, result, or capability to perform a service that must be produced to complete a process, phase, or project*."

Forecast: *"An estimate or prediction of conditions and events in the project's future based on information and knowledge available at the time of the forecast. The information is based on the project's past performance and expected future performance, and includes information that could impact the project in the future, such as estimate at completion and estimate to complete.*"

Gantt chart (Tool): *"A graphic display of schedule-related information. In the typical bar chart, schedule activities or breakdown structure components are listed down the left side of the chart, dates are shown across the top, and activity durations are shown as date-placed horizontal bars."*

Input: *"Any item, whether internal or external to the project that is required by a process before that process proceeds. May be an output from a predecessor process*."

Lesson Learned (Output/Input): *"The learning gained from the process of performing the project. Lessons learned may be identified at any point. Also considered a project record to be included in the lessons learned knowledge base."*

Milestone: *"A significant point or event in the project*.' It is also defined in PMI (2008) as *'a significant event, deliverable or achievement within a project or schedule*" (Carstens et al., 2013).

Output: *"A product, result, or service generated by a process. May be an input to a successor process."*

Project Charter (Output/Input): *"A document issued by the project initiator or sponsor that formally authorizes the existence of a project, and provides the project manager with the authority to apply organizational resources to project activities*."

Project Phase: *"A collection of logically related project activities, usually culminating in the completion of a major deliverable*."

Requested Change (Output/Input): *"A formally documented change request that is submitted for approval to the integrated change control process*."

Risk: *"An uncertain event or condition that, if it occurs, has a positive or negative effect on a project's objectives.*"

Risk Register (Output/Input): *"The document containing the results of the qualitative risk analysis, and risk response planning*."

Work Breakdown Structure (WBS) (Output/Input): *"A deliverable-oriented hierarchical decomposition of the work to be executed by the project team to accomplish the project objectives and create the required deliverables. It organizes and defines the total scope of the project.*" DOD (2005) provided another definition: *"A product-oriented family tree composed of hardware, software, services, data, and facilities. It displays and defines the products to be developed and/or produced and relates the elements of work to be accomplished to each other and to the end product"* (Carstens et al, 2013). The role and structure of the WBS according to (Carstens et al., 2013) is to provide *"traceability, affordability, feasibility, usability, reducibility, maintainability, operability, scalability, sustainability, and simplicity*."

Practices: "*the various traditions, norms, and rules or bodies of knowledge that state, explicitly or implicitly, how the practitioner should act in certain situations*" (Blomquist et al., 2010).

Project Boundaries: This process declares which tasks are to be covered exactly during the project's life cycle, to avoid any confusion during the execution phase. This step is of great importance in terms of decreasing the need for *'creeping documents*' later in the project (Cervone, 2006; Carstens et al, 2013).

Project Requirements: *"A project requirement can be defined as anything that needs to be accomplished as part of the project"* (Carstens et al., 2013). A project requirement is defined by PMI (2008) as *"a system, product, service, result, standard, or anything else that is desired by a stakeholder*."

First Cut Plan (Tool): *"It means that the initial process has been executed, but there are other iterations needed to incorporate other 'layers' into the overall view*" (Carstens et al., 2013).

2.2.2 Project Management Methodology (PMM) through a projects' life cycle

Any project has a life cycle whereby it goes through certain phases until reaching a result or product. Researchers have their own visions of what a life cycle is in this context. Baguley (2008) summarized the project life cycle into four stages. The first stage is *'conception'* in which the project is identified and its cost is estimated. At this stage, there will also be an initial definition of performance and time. Some projects will stop at this stage if they do not meet with the organization's vision or its capacities, while others will advance to the next stage. The second stage is *'Birth and Development'* where the project is planned in terms of team responsibilities and tasks, time and cost details, and specific outcomes. *'Adulthood*' is the third stage in which the plan is turned into action and the PM uses monitoring, controlling, and forecasting procedures in order to complete the project and deliver outcomes. The final stage is *'old age and termination*', where project review and audit takes place. There are different terms for the stages of the project life cycle such as initiating, planning, executing, monitoring and controlling, and closing (PMBOK®, 2013).

The process starts with choosing the right project, which depends on financial and non-financial decision models (Carstens et al., 2013). Non-financial decision models relate the outcomes of the projects (e.g. *effort & schedule*) to factors like *'size, characteristics, team productivity, etc*.' Financial decision models, on the other hand, are determined to declare

how the project benefits the organization (Heldman, 2011; Carstens et al., 2013). This is achieved by conducting questionnaire assessments, and comparing projects based on different or weighted criteria. Davis (2016) criticised his earlier work for focusing on using tools such as questionnaires to measure project success only from the PM's point of view and during one specific stage. He recommended using the relevant tools to cover all stakeholders' views in more than one particular phase of the project.

The Project Management Methodology **(**PMM) helps to specify best practices in the organization, enhances inert-organizational communication, and reduces anticipated duplication of effort by providing tested and familiar resources. The elements of PMM have been described as '*processes, tools, techniques, knowledge areas, and comprehensive capability profiles*' (Joslin and Muller, 2015). It sets out what an organization regards as best practice, improves inter-organizational communication, and minimises duplication of effort by having common resources, documentation and training (Clarke, 1999; McHugh and Hogan, 2011).

In terms of deciding which research methodology to use, some governmental organizations tend to use external standards, for example the PMBOK® that is issued by the PMI or the PRINCE2 (McManus and Wood-Harper, 2002; McHugh and Hogan, 2011). Thomas and Mengel (2008) indicated that practitioners all over the world use PMBOK® as it provides information for junior practitioners on what to know and how they should learn it. PRINCE2 and the standards of professional associations like APM are used in European countries. The wide acceptance of PMBOK® as a main source of teaching and training for certificate programs of PMs has made it essential to update and change the content in order to cope with increasing demands from practitioners. For both researchers and practitioners, the focus in recent years has been more on '*softer*' issues like approaches towards human activities and effective communication (Buckle, 2003; Thomas and Mengel, 2008).

Ireland ranked in second place after Sweden and ahead of the United Kingdom for practice of project management in a study conducted by the International Project Management Association (IPMA) in (2001/2002) (Naughton and Kavanagh, 2005; McHugh and Hogan, 2011). The main reason for this was the increase of the use of project management among international companies in Ireland. In 2004 and 2005, the Institute of Project Management Ireland (IPMI) and the Department of Management and Marketing in University College Cork released the findings of a survey of the PMMs used by PMs in Ireland. Among the

results, it was found that (25%) of the organizations use PMBOK® methodology, (5%) use the methodology of PRINCE2, while the rest use other project methodologies. Overall, 47% of interviewees say that it is important for senior executive managers to have a project management certificate. There were nearly (1500) PMs in Ireland in 2008 (IPMI, 2008, McHugh and Hogan, 2011).

Payne and Turner (1999) were the first to claim that PMs often achieve better results when they customise the PMMs according to the characteristics and size of projects (Golini et al. 2014). Blixt and Kirytopoulos (2017) conducted a study on the Australian public sector and indicated that "*supplemented project methodologies, such as PMI's government extension to PMBOK (PMI, 2006) offer some direction about how practice differs between government projects, but they do not fully address the requirement for specific contextual tailoring.*" One of the major findings of their study is that the PMM in the organization should be tailored according to the current operation processes and practices and the values that govern the organization vision and goals. This goes perfectly with what Bresnen (2016) as he indicated that the area of knowledge in PMBOK should not overlook the importance of the experience of PMs and practitioners. Some organizations adapt their PMM from external standards such as the PMBOK® (Zielinski, 2005; McHugh and Hogan, 2011). Ruiz-Martin and Poza (2015) concluded that there is a need to alter the documentation process in PMBOK® to establish a better connection among documents and this highlights the importance of documentation for the PM.

The focus of the research will be on studying the strength and the weaknesses of both PMBOK® and PRINCE2 because they are the most used PMMs according to previous discussion (IPMI, 2008, McHugh and Hogan, 2011; Buckle, 2003; Thomas and Mengel, 2008). Although PMBOK® and PRINCE2 are the main two guides for technical Project management knowledge, continuous alterations to tools and techniques are used to confront rapid changes and findings of researchers and practitioners. These alterations aim to enhance project management performance, but they did not decrease the number of challenges faced by projects in both public and private sectors (Davis, 2016). Young and Conboy (2013) discussed areas of development within the current PMBOK®. Young and Conboy refer to certain areas that need development, like; the lack of clarity in the role of PPM and the needed development in the agenda of project management research in general. Other areas are the variety and confusion of existing frameworks and model, and finally that any suggested

framework must be designed to meet multifunction purposes and the applicability in real world.

According to Stettina and Hörz (2015), the majority of PMs in the case study use PRINCE2 and other 'agile' methods. The term Agility first used in 1990s to refer to a new technical products or software aim to develop projects (Takeuchi and Nonka, 1986; Stettina and Hörz, 2015). Dyba and Dingsoyr (2008) discussed the core values which are fundamental to achieving agile development; "*individuals and interactions over processes and tools, working software over comprehensive documentation, customer collaboration over contract negotiation, responding to change over following a plan*" (Serrador and Pinto, 2015).

The life cycle of the project is like a journey to establish new knowledge (Engwall, 2002, Ahern, et al., 2014). In order to give a detailed explanation of the common project management tools and techniques through the project life cycle, the following phases are summarised from PRINCE2 and PMBOK®.

- ***Initiating & Planning Phase***

Shenhar and Dvir (1996) referred to project planning as "*a process of activities that starts by breaking the project's work into a WBS in a tree-like form and separates the work into the product's subunits and additional support activities. Each activity is then budgeted, and its projected length is estimated. This process results in a project schedule, intermediate milestones, and a project budget that are set in advance as constraints for project management*."

Stakeholders' engagement is essential to identify their needs and to gain their support throughout the project plan (DPAC, 2011; Patanakul et al., 2016). There are two kinds of stakeholders, '*key and non-key*' stakeholders. According to Patanakul et al., Key stakeholders *"in government projects are those individuals or groups whose interest in the project must be recognized if the project is to be successful – those who will be positively or negatively affected during the project or unsuccessful completion of the project*'. Non-key stakeholders are *'those individuals or groups identified as having a stake in the project but who do not necessarily influence its outcome*." Pich, Loch and Meyer (2002) indicated that stakeholders *"resist change, so much of the manager's job is to anticipate and soften resistance by creating flexible contracts and keeping stakeholders well informed. Top management support,*

negotiation techniques, team building exercises, and the project manager's charisma can help overcome conflicts of interest."

In their study, Van Offenbeek and Vos (2016) tried to create a framework that manages the impact of stakeholders' issues on the project's progress and outcomes. They applied the framework in a hospital in which multi-stakeholders' issues were adding to the complexity of projects. The main aim here is to help PMs to address those issues in a way that helps to analyse them, sharing knowledge, and acting accordingly. One negative feature of such a framework, and other similar frameworks, is that they consume both time and effort of PMs and therefore cannot be used in large projects unless data collection tools are modified as required.

There are many tools that a PM can use to overcome the challenges of time, scope, and cost constraints. The following is a list of issues or situations where the PM would need to use such methods: *"Resources Capacity, Resource Commitment Issues, Scope Reduction, Fast Tracking, Activity Crashing, Value Engineering, Last Resort*" (Carstens et al., 2013). Table (1) provides an example of a resources estimation checklist.

	Checklist Components	√	×
1	Have you established formal, documented data collection processes for the project?		
2	Do you have sufficient definition of requirements for the project (management areas, fully decomposed WBS)?		
3	Do you have historical information, including costs, from previous similar projects?		
4	Have you identified all sources of costs for your project (labour, materials, supplies, equipment)		
5	Do you have justified reasons for selecting your estimating methodology, models, guides, and software?		
6	Have you considered risks in your plan?		
7	Do your estimates cover all tasks in the WBS?		
8	Do you understand your project's funding profile, specifically how much funding will be provided and at what intervals, and how sure is the funding assumption?		
9	Do you know what level of accuracy is needed for the estimate?		
10	Do you have a process for keeping records of your project activity for future efforts?		

Table -1- Resources Estimation Checklist during Planning Phase (Carstens et al, 2013)

Researches declares that risks can be identified and reduced through allocating them in a risk management plan, but there will never be no risks at all during the implementation (Eaton and Little, 2011; Carstens et al., 2013). According to Richardson (2010), risks can be either '*known or unknown*'. Known risks are *"logically expected to occur and for which some*

general probabilities and impacts can be estimated. These can be handled through risk management techniques." Unknown risks are *"not predictable events and are not generally anticipated in terms of the formal risk evaluation process*" (Carstens et al., 2013). Risk management is widely discussed in the PMBOK® Guide (PMI, 2008) in which there are six main processes: *"planning risk management, identifying risks, performing qualitative risk analysis, performing quantitative risk analysis, planning risk responses, and monitoring and controlling risks*."

In their study, Liu and Cross (2016) affirmed that if the PM really wants to have an effective team, the process of selecting the team members must contain certain characteristics. Project teams are needed in organizations to achieve their demands. Teamwork helps to meet targets faster, better, more creatively and more accurately. The authors here tested the impact of '*input factors*' like *"leadership, management support, rewards, knowledge/skills, team diversity, and goal clarity*' and '*process factors*' like "*cooperation, communication, learning activities, cohesion, effort, and commitment*" on the technical outcomes of projects such as *'effectiveness, efficiency, and innovation*.' The results indicated that among all factors, cooperation is most important in relation to effectiveness and efficiency. Team harmony is the next most important in relation to efficiency and innovation. The study also refers to the importance of communication, clarity of goals, and team knowledge and skills in improving the organization's three technical outcomes. Organizational goal ambiguity is defined by Chun and Rainey (2005) as "*the extent to which an organizational goal or set of goals allows leeway for interpretation, when the organizational goal represents the desired future state of the organization*" (Jung, 2014). Goal-setting theory sets out that "*people with specific and challenging goals perform better than those with vague goals*." This theory assumes that there *"is a direct relation between the definition of specific and measurable goals and performance"* (Latham, 2004; Verbeeten, 2008).

According to Bentley (2015), the starting up phase using PRINCE2 method follows certain steps: *"appoint the executive and the project manager, capture previous lessons, design and appoint the project management team, prepare the outline business case, select the project approach and assemble the project brief, and finally plan the initiation stage*." The second step is initiating the project, in which the project plan is formed. During this phase, the PM prepares the components of the project plan, namely quality management plan, risk management plan, configuration management strategy, and communication management strategy. Those components help in setting up the control points that all stakeholders agree

upon and adopt. During this phase, a very important step occurs, namely refining the business case and creating the benefit review plan. This step helps in allocating benefits and ascertaining how they will be measured during the project's implementation. By the end of this phase, the project initiation document is created. To sum up, both phases - starting up and initiating the project in PRINCE2 – equate to the initiating and planning phases in the PMBOK®.

- ***Executing Phase***

Dvir and Shenhar (2011) gave a very powerful statement in relation to the role of organizational culture in implementing successful projects. They indicated that *"great projects create a revolutionary project culture. The execution of great projects often requires a different project culture, which can spread to an entire organization*" (Duffield and Whitty, 2016). The importance of setting Key Performance Indicators (KPIs) can be seen if the organization tends to achieve continuous improvement in its general performance (Kaskinen, 2007; Carstens et al., 2013). Features of good KPIs include the following; *"easy to calculate, clearly defined, easy to compare"* (Hursman, 2010; Carstens et al., 2013), and should focus on *'a small set of metrics'* (Richardson, 2010; Carstens et al., 2013), and should be based on the answers of a specific set of Key Performance Questions (KPQs) (Nixon et al., 2010; Carstens et al., 2013).

According to PMI (2008), 90% of a PM's time must be focused on internal and external communications. Focus must be put on communication management processes, which ought to reflect *"a model process outlining how PMs should manage the communications related to a project*." Focus should be applied also to tracking and reporting the project status. During this process, the PM can use *'status reports, issue logs, and visual reports*' (Carstens et al., 2013).

During the implementation phase, project managers' values and expectations play an essential role in relation to delivering projects efficiently and effectively. In his study, Verburg (2013) examined the most important values for a sample of PMs from nine different values: *"control, duty, accomplishment, creation, community, freedom, harmony, reputation, and willingness to work fully virtual*". Task accomplishment was deemed the most important value with 61% of PMs putting it first. PMs confirmed that in order to execute projects with efficiency and quality, they need clear communication, openness, and trust within teams. They also pointed out that organizational support is essential to delivering projects.

In his book, Bentley (2015) explains that, according to PRINCE2, four stages occur in both execution and monitoring & controlling phases: directing a project, controlling a stage, managing product delivery, and managing a stage boundary. The difference here between PMBOK® and PRINCE2 is that PMBOK® treats the execution phase as the main phase where the project really occurs, while the next phase monitors and controls the execution phase. Using PRINCE2, on the other hand, enables the PM to seek authorization from the project board on a continuous basis.

- ***Monitoring & Controlling Phase***

Using PRINCE2 helps to keep the project's implementation on the *"right route, and helps to regulate the processes to the requirements of defined process*" (Jamali and Oveisi, 2016). PMBOK® identifies this phase as *"the process of tracking, reviewing, and reporting the progress to meet the performance objectives defined in the project management plan. The key benefit of this process is that it allows stakeholders to understand the current state of the project, the steps taken, and budget, schedule, and scope forecasts*" (PMBOK®, 2013).

According to PMBOK® (2013), PMs conduct techniques related to "*monitoring & control project work, validating & controlling scope, costs, quality, schedule, & risks, performing integrated change control, preparing the performance report, and completing the phase review."*

There are many techniques are used during this phase, including the Six Sigma projects, which gained a lot of trust among researchers in achieving project excellence and were considered 'critical to the survival of organizations' (Basu, 2014; Hornstein, 2015; Marzagão and Carvalho, 2016). There are numerous definitions of the Six Sigma, such as the definition provided by Linderman et al. (2006) that it is *"an organized and systematic method for improvement of processes and the development of new products and services, based on statistics and scientific techniques, with the purpose of reducing defects defined by customers*" (Marzagão and Carvalho, 2016). The need to apply this technique prompts the need to create financial and customer-oriented metrics (Schroeder et al., 2008; Marzagão and Carvalho, 2016). This technique relies on the qualities of the PM and having the flexibility to adopt management styles that can deal with current challenges.

- ***Closing Phase***

During this phase, Knowledge Management (KM) tools are supposed to be used in the organization to communicate possible risks that are derived from lessons learned (Alhawari et al., 2012; Neef, 2005; Duffield and Whitty, 2016). From the findings of Duffield & Whitty study, senior management encouraged *'sharing stories, exchanging ideas, building relationships'* because of the impact this could have on project success, and they provided financial resources accordingly. Other important findings were the importance of high quality technology to facilitate knowledge sharing (KS), and the need for experts and leaders to support the learning environment through their management. In their study, Duffield and Whitty (2016) apply the Systematic Lessons Learned Knowledge (Syllk) model, which is based on the Swiss cheese model. The aim of developing such a model is to accommodate managing projects and day-to-day business activities.

In a study conducted by Love et al. (2016), there was a test implantation of *'lessons learned*' to maintain absorptive capacity and transfer knowledge within the organization. Absorptive capacity is *"an organization's dynamic capability whereby its processes and routines have embedded within them the dimensions of acquisitions, assimilation, transformation, and exploitation. This helps the organization with the ability to identify and gather knowledge from different sources, interpret and analyse the information that is acquired, and transform processes*" (Cohen and Levinthal, 1990; Love et al. 2016). Among the findings of their study, the learning process of examining rework in order to enhance performance contributed to reducing the KPIs from 21 to only 8 because the leadership and management team found them difficult to perform.

The lesson log in PRINCE2 is updated through the project with the '*lessons learned*' acquired and approved by the project board. The final lesson report contains lessons derived from risk register, issue register, and quality register. The evaluation of the project, according to this school, consists of *"project initiation documentation, issue register, risk register, quality register, lessons report, and the end project report*" (Bentley, 2015). Table (2) compares between the project life cycle in PMBOK® and PRINCE2;

Guides / Phases	PMBOK®	PRINCE2
Initiating & Planning Phase	It deals with creating a series of actions, predicting duration of actions, creating a work schedule, and making cost estimations in big projects. It also plans quality, human resources communications and risk management (Jamali and Oveisi, 2016).	Refers to "managing by stages". Detailed planning of succeeding stages is only undertaken upon nearing completion of the current stage (Parker et al., 2013).
Execution Phase	It includes best practices with full descriptions of techniques to manage projects (PMBOK®, 2013).	It consists of 7 processes defining what to be done, as well as when and how it must be done over the life of a project (Bentley, 2015).
Monitoring & Controlling Phase	It involves controlling the changes during a project, confirming the aim, controlling the project schedule, controlling the costs and performance of the members (Jamali and Oveisi, 2016).	The process "managing a stage boundary" provides a decision point on whether the project will be continued as planned, adjusted or stopped. It depends on the project board satisfaction with the current stage-end and the next stage plan (Parker et al., 2013).
Closing Phase	It provides a formal process for measuring success by evaluating the project against clearly defined goals. The process also ensures acceptance by customers and stakeholders of the project (Parker et al., 2013).	This process ensures that all planned outcomes have been delivered to the customer's required parameters, as specified in the project brief and business case contained within the starting up a project process (Parker et al., 2013).

Table -2- Project Life Cycle through PMBOK® and PRINCE2

Bresnen (2016) refers to PMBOK® as *''a well-established and institutionalised body of knowledge*", but he also points out the importance of the information derived from applying techniques and skills from practitioners' fieldwork experience. There is a need, according to the study recommendations, to provide a more '*universal'* method to practice project management in a freer zone where the existence of knowledge areas does not overlook the significant role of everyday life experience of Project management practitioners.

The use of tools and techniques also extends to detecting early warning signs in projects in order to solve, limit or avoid problems. These tools are summarized in the study of Haji-Kazemi, Andersen and Klakegg (2015) into two groups as follows: "*early warning sources directly discussed in the literature and potential early sources indirectly discussed in the literature*." Tools in the first group are "*risk analysis, project assessment methods, and earned value management*". The second group consists of "*stakeholder analysis, cause/effect analysis, maturity assessment, and interface management, extrapolations from earlier projects, gut feelings, and brainstorming*."

Another important study was conducted by Carvalho, Patah and de Souza Bido (2015) in which they examined the association between project management areas in PMBOK® and project success. They aimed to highlight the importance of relating the use of PMM in PMBOK to the project type in relation to the industry field, level of complexity, and team members' level of training (Chou and Yang study in, 2012; Sanchez-Losado, 2012; Carvalho, Patah and de Souza Bido, 2015). Carvalho, Patah and de Souza Bido (2015) applied a

longitudinal study for more than three years to analyze the data of a survey of 1387 projects from three countries - Argentina, Brazil, and Chile. They concluded that '*national environment plays a key role in project performance*.'

2.2.3 Impact of project management on project success

In the 1970s, business studies focused on the operational side of a successful process. The '*iron triangle*' was the main method to judge any project's success. Other researchers tried to discuss other technical factors behind success all of which neglected '*soft skills*' such as communication with customers (Jugdev and Muller, 2005; Davis, 2014).

In the 1980s and 1990s, the literature moved on to investigate other factors behind project success, such as communication with clients, but not for all types of stakeholders (Jugdev and Muller, 2005; Davis, 2014).

In his study, Davis (2016) highlighted that the most familiar and most used instrument for project management assessment is that of Pinto and Slevin (1987). The instrument focuses on the following ten categories: *"project mission, top management support, schedule & plans, client consultation, personnel, technical tasks, client acceptance, monitoring & feedback, communication, and trouble-shooting.*" Davis also refers to another leading assessment framework of Atkinson (1999), known as *'The Square Route'*. This framework consists of the following four elements:

1. Iron triangle: *'cost, quality, time*.'
2. The information system: '*maintainability, reliability, validity, information quality, use*.'
3. Benefits to the organization: *'improved efficiency, improved effectiveness, increased profits, strategic goals, organizational learning.'*
4. Benefits to stakeholder community: '*satisfied users, social and environmental impact, personal development, professional learning, contractors' profits, capital suppliers, content project team, and economic impact on surrounding community.*'

Davis (2016) provided an analysis of project success dimensions according to previous literature. He divided these dimensions into two categories: *'stakeholders involved in a project'* and *'project structure*.' Dimensions of success that relate to stakeholders are *"personnel skills/issues, client/customer specific related and benefit to stakeholder group issues, communication, satisfaction of a stakeholder with a project, and meeting*

expectations." In terms of project structure, the dimensions are related to *"approaches, (time, cost, quality), technical aspects of a project, and organizational characteristics*."

The literature tries to specify which staff members can realize project benefits, stating that this would be '*only business managers and users*' (Peppard et al., 2007; Dupont and Eskerod, 2016). Business managers are line managers and their '*subordinates*'. Line managers link between managers and other staff members who are required to complete the change (McMaster et al., 2005; Dupont and Eskerod, 2016). Therefore, Benefit Realization Management (BRM) is defined as "*a set of processes structured to close the gap between strategy planning and execution by ensuring the implementation of the most valuable initiative*" (Serra and Kunc, 2014; Dupont and Eskerod, 2016). The style of management also has a great impact on team success according to the findings of Ramos, Mota and Corrêa (2016). Their sample, which consisted of 129 PMs in Brazil, agreed that the best management style must show "*determination, collaboration, management approach, responsibility, conclusions, view of project, project achievement, and possibilities*."

Researchers have not yet agreed upon specific success criteria, but they do generally agree that the most important thing is agreement among all stakeholders to the set criteria, acknowledging that every stakeholder has some degree of responsibility in ensuring the success of the project (Turner, 2014; Davis, 2016). Johansen et al. (2014) agreed that the involvement of senior managers (SMs) can create a problem as their expectations, risks, and opportunities can be different (Davis, 2016). Maylor et al. (2006) also concluded that a successful transition to focusing on projects and achieving their outcomes should not mean neglecting the importance of having a responsible program manager who can communicate with senior management and act at an operational level to assure the project's safe and successful implementation. Brynjolfsson and Hitt (1998) carried out an early study that confirmed that a business manager should take the responsibility for a project's success rather than the PM. His/her vision of target benefits for the next '1-8 years' determines the level of performance and micro activities (Young and Jordan, 2008). This does not marginalize the role of PMs, as they are one of the main influences in top manager's (TM) and board's decisions (Hampel, 1998; Young and Jordan, 2008). Further advice is provided by Loufrani-Fedida and Missonier (2015) to managers to cut down the search for the *'best'*, *'ideal'*, or '*perfect*' PM, because it is also their responsibility to enhance organizational performance rather than rely on having a perfect PM.

If the success of any public or private project means creating a value or values, then the focus should be on the mechanisms used to generate these values. According to Morris (2013) *"the core element for creating value in project management is the integration of work among organizations within the project's multi-organizational system"* (Artto, Ahola and Vartiainen, 2016). Such integration can be secured through reinforcing social communication and interaction among organizations that benefit from such value creation. There are shared values in both private and public sector projects that need to be achieved to guarantee project success. Approaches used in project management demonstrate an atmosphere of *"openness and flexibility to emerge, including a variety of unexpected or informal coordinating bodies, or entrepreneurial individuals who offer their services voluntarily"* (Artto, Ahola and Vartiainen, 2016).

In order to evaluate a program or a project as successful, it is necessary to specify the term '*project success'*. According to Kerzner (1989), a major element for the successful execution of project management is to give the PM and his/her team exclusive responsibility (Munns and Bjeirmi, 1996). Maylor et al. (2006) studied reasons for the failure and success of six different organizations during the process of shifting to a *'project-based*' style of management. Reasons for failure included *"long periods' duration, poor performance, lack of objectives clarity, starting and never complete projects, to less senior management support on project level compared to program level.*"

There is a difference between project management success and project success. A project can fail, even if the project management is successful and vice versa (Munns and Bjeirmi, 1996). Project success depends on achieving initial objectives while project management success is evaluated according to time, cost, and quality measurements (Cookie-Davies, 2002, Toor and Ogunlana, 2010).

Serra and Kunc (2015) highlighted the gap in recent literature regarding the specific definition of '*project success'*. Zwikael and Smyrk (2011) studied the impact of project management on BRM and found that customers' outputs on the schedule have a huge role in determining the success of projects. They also stated that BRM practices are more practical when organizations redesign their success criteria to include values and benefits. Finally, the most crucial finding is that BRM practices by themselves are not enough; they need a traditional iron triangle (Zwikael and Smyrk, 2015).

BRM aims to make the values of projects clear enough to increase the effectiveness of project governance. When an organization realizes the benefits of projects, with strong governance this can reduce the rate of failure. Ika (2009) divided benefits into two components. The first is related to '*project/product success'*, which refers to the satisfaction of end-users and the benefits gleaned by stakeholders and the staff of the project. The second component is related to '*strategic project management'*, which refers to the success of the whole business and the achievement of the client's strategic objectives. Another classification of benefits is offered by Camilleri (2011), who relates them to '*project success'* (outcomes and benefits), and '*project corporate success'* (the achievement of strategic objectives). Zwikael and Smyrk (2011) divided benefits into two sections: '*ownership success'* (benefits, fewer dis-benefits, costs); and '*investment success'* (the financial return to the organization) (Zwikael and Smyrk, 2015).

There is a need to differentiate projects according to their complexity, in order to determine each component of a successful project delivery. Project management is often viewed from a traditional perspective, where planning is more important than learning. However, with recent growing demands to learn and share knowledge among team members and stakeholders, new methods are starting to be applied. Ahern et al. (2014) discussed different techniques applied to complicated projects. Traditional project management disregards learning and knowledge certainty in the first phase of planning and design of a project, but other approaches, like '*practice-oriented approaches*', encourage learning and the need to acquire knowledge over the project's life cycle.

In an attempt to realize the success criteria, it is necessary to investigate the factors, which can cause project management to fail (Avots, 1969; Munns and Bjeirmi, 1996). It has been found that projects can fail due to certain circumstances. Examples for these circumstances are having no stable basis for the project in the organization, selection of the wrong PM, a lack of TMS, no specific tasks assigned to team members, poorly used project management techniques, unplanned closedown of the project, or a lack of commitment in the project management team.

In spite of attempts to specify the criteria for projects, a lot still depends on the application and the circumstances within the organizational environment. Morris and Hugh (1986) indicated that the success of a project depends on acquiring "*a realistic goal, competition, client satisfaction, a definite goal, profitability, third parties, market*

availability, the implementation process, and the perceived value of the project" (Munns and Bjeirmi, 1996). To evaluate a project's success, the iron triangle is used (Morris and Sember, 2008). Although the concept of the iron triangle has been established to guarantee project success, some projects were considered failures despite fulfilled the triangle's terms. Freeman and Beale (1992) discussed the measuring criteria for project success which includes "*the technical performance, efficiency of execution, managerial and organizational implications, personal growth and manufacturer's ability and business performance"* (Toor and Ogunlana, 2010).

Project management plays an important role in project success, but other factors outside the control of the PM are also significant (Munns and Bjeirmi, 1996).

2.2.4 Key Performance Indicators & Critical Success Factors

Table -3- indicates mentioned studies about CSFs, which are according to Pinto and Slevin (1987) "*project mission, top management support, schedule and plans, client consultation, personnel, technical tasks, client acceptance, monitoring and feedback, communication, trouble-shooting*." CSFs are also defined as *"characteristics, conditions, or variables that can have a significant impact on the success of the project when properly sustained, maintained or managed*" (Milosevic and Patanakul, 2005; Lauras, Marques, and Gourc, 2010).

In the 1990s and 2000s, there was a discussion about whether CSFs could be proved by literature or whether they change over time (Turner, 1999; Davis, 2014). This discussion followed the CSFs established by Pinto and Slevin (1987). In the 21st century, literature tends to discuss the "multiple stakeholder" concept, which indicates that the success of any project is not solely the PM's responsibility and different types of stakeholders should be involved within the phases of the project (Turner et al., 2009; Davis, 2014).

In their study, Mir & Pinnington (2014) claimed that there is a need to provide a practical definition of project success and a model of CSFs after Muller and Jugdev (2012) announced that there is no exact definition of project success and CSFs. They chose Project management Performance Assessment (PMPA) proposed by Bryde (2003) as the model to apply in their study. The PMPA consists of five main areas to measure organizational performance: "*The Project management leadership, Project management staff, Project management policy and strategy, PM partnerships and resources, and the project life cycle management process*." They explored, for the first time, the relationship between the elements

of the PMPA framework and the project success variables. One of the findings indicated the importance of the impact of project performance on the project team, which shows how essential it is to have effective KPIs in order to ensure the success of projects. KPIs are "*the compilations of data measures (either by quantitative or qualitative data) used to access the performance of the construction operation*" (Cox et al., 2003, Toor and Ogunlana, 2010). Toor and Ogunlana (2010), when studying the importance of KPIs in relation to stakeholders of a mega construction project, attached priority to "*finishing on time*", followed correspondingly by "*being under budget*", "*efficiency*", "*safety*", "*meeting specifications*" and "*effectiveness*".

Padalkar and Gopinath (2016) examined nearly 230 articles of high citation and found that success factors had been '*the leading topic of research interest'* since the 1980s. The study concluded that knowledge management, time, and performance management are the leading topics within project management research. Another important outcome of the study is the need to focus on controlling processes.

According to a recent study conducted by Yun et al. (2016), capital projects are evaluated as a whole after the completion of all project processes. Benchmarking results are available for PMs after the last phase of the project. From reading six studies that discussed KPIs in capital projects, it was found that certain KPIs appeared commonly. These KPIs were *"cost, time, safety, quality, client's satisfaction, communication effectiveness, end-user's satisfaction, planning effectiveness, functionality, and environmental performance*" (Yeung et al., 2013; Yun et al., 2016). The study also confirmed the need to provide KPIs after each phase of the project and to add an additional component to decrease the risk of bias in using KPIs as a subjective tool to declare project success (Yun et al., 2016).

Previous studies indicated unambiguously that TMS is a clear CSF. In their study, Young and Jordan (2008) discussed whether TMS is a 'mantra or necessity?' Earlier studies refer to a weak relationship between TMS and project success (Markus and Keil, 1994; Markus et al., 2000; Crawford, 2005; Young and Jordan, 2008). Other older studies call for an important role to be attributed to TMs who were the real engine activating organizational change (Beath, 1991). Young and Jordan (2008) compared five different case studies in terms of CSFs. When focusing on a case study considered a failure, there is "*no top management support, no user involvement, informal methodology, no realistic expectations & clear strategy, and no competent staff motivated to succeed*." On the other hand, the example that

was considered a success featured a strong CEO and TMS, strong user involvement, as well as *"detailed consideration of organization to customise vendor methodology, realistic expectations & clear vision/objectives, and a very competent staff that are highly motivated*." The study reached a very significant conclusion that it is not that important to have a high level of competence in PM skills and methodologies if there is strong TMS.

Human factor is one of the main factors that can prevent the application of '*lessons learned*' processes. PMs face a great challenge in implementing the culture of reusing previous knowledge because it ultimately comes down to the people within the organization. Stakeholders can be owners, customers, employees, funders, regulators, and even the wider community (Baldry, 1998). Stakeholders have been referred to by researchers as including: "*project manager, project team, client, contractor/consumer, customer, top management, organization/ owner, line manager, project leader, project personnel, team members, executive, executive management, internal and external, public, senior management, supporters, director, engineer, external environment, investor, project team leader, supplier, environment, and external influences*" (Davis, 2014).

A competent PM is one of the most critical factors to project success. Thomas and Mengel (2008) discussed the comprehensive model of PM development proposed by Thomas et al. (2004). Through the PM's journey to master development, he or she starts at the cognitive intelligence level, knowing '*what*' is required to reach the spiritual intelligence by knowing '*why*'. Their roles also develop from being team leaders where they are *'leaders of complex adaptive projects in uncertain environments*.'

Haji-Kazemi, Andersen and Klakegg (2015) conducted a study on a sample of members of the '*Project Norway*' association, which provides "*research-based collaboration with Norwegian project-based organizations in the public and private sectors*." They found that possible reasons for failing to address early warning signs in the projects included the following: "*lack of effective communication among project members, organization's complexity, over-optimism, unclear strategy, conflict among goal and strategy*." They also found that real reasons for not responding to early warning signs among members of the sample to be as follows (highest percentage first): '*poor management, lack of effective communication among project members, over-optimism, political issues*.'

CSFs	Previous Studies
Top Management Support	Pinto and Slevin (1987), Kerzner (1989), Brynjolfsson and Hitt (1998), Pich, Loch, & Meyer (2002), Young and Jordan (2008), Wirick (2009), Toor and Ogunlana (2010), Alamutu, Olateju, & Abul-azeez, (2011), Loufrani-Fedida and Missonier (2015), Davis (2016), Liu & Cross (2016).
Negotiation & Communication techniques	Pinto and Slevin (1987), Siddiquee (2006), PMI (2008), Alhashemi et al. (2008), Bao (2009), Turkyilmaz et al. (2011), Bhuiyan & Amagoh (2011), Azzone & Palermo (2011), Alamutu, Olateju, & Abul-azeez, (2011), Sarrador & Pinto (2015), Haji-Kazemi, Andersen and Klakegg (2015), Liu & Cross (2016).
Goals Clarity & achievements	Morris and Hugh (1986), Kerzner (1989), Chuh & Rainey (2005), Christensen et al. (2007), Rantanen et al. (2007), Verbeteen (2008), Toor and Ogunlana (2010), Imudia, Kaindaneh, and Baffour-Awuah (2013), Jung (2014), Van Eijck and Lindemann (2014), Haji-Kazemi, Andersen and Klakegg (2015), Liu & Cross (2016), Davis (2016).
Knowledge Management & Skills development	Pinto and Slevin (1987), Atkinson (1999), Abbasi & Al-Mharmah (2000), Siddiquee (2006), Siddiquee (2010), Alamutu, Olateju, & Abul-azeez, (2011), Pemsel and Wiewiora (2013), Bolch & Bugge (2013), Yang, Huang, and Hsu (2014), Ramazani & Jergeas (2015), Bredillet et al. (2015), Davis (2016), Padalkar and Gopinath (2016), Liu & Cross (2016), Duffield & Whitty (2016).
Organizational Culture & National Environment	Atkinson (1999), Bao (2009), Wirick (2009), Turkyilmaz et al. (2011), Rees-Caldwell & Pinnington (2013), Fitzsimmons & Stamper (2014), Carvalho, Patah & de Souza Bido (2015), Duffield & Whitty (2016).
Client & Stakeholders consultation & acceptance	Morris and Hugh (1986), Pinto and Slevin (1987), Atkinson (1999), Pich, Loch, & Meyer (2002), Siddiquee (2006), Young and Jordan (2008), Ika (2009), Yun et al. (2016), Kossova and Sheluntcova (2016), Davis (2016), Laursen and Svejvig (2016), Davis (2016).
Competent PM	Maylor et al. (2006), Young and Jordan (2008), Thomas and Mengel (2008), Spekle & Verbeeten (2014), Medina & Medina (2014), Ahern, et al. (2014), Bredillet et al. (2015), Loufrani-Fedida and Missonier (2015).
Implementation & Controlling Process	Morris and Hugh (1986), Munns and Bjeirmi (1996), Young and Jordan (2008), Hoque (2008), Wirick (2009), Toor and Ogunlana (2010), Imudia, Kaindaneh, and Baffour-Awuah (2013), Haji-Kazemi, Andersen and Klakegg (2015), Padalkar and Gopinath (2016), Klakegg, Williams and Shiferaw (2016).
Commitment (Time, Budget, quality)	Kerzner (1989), Siddiquee (2006), Alhashemi et al. (2008), Alhashemi et al. (2008), Bao (2009), Toor and Ogunlana (2010), Alamutu, Olateju, & Abul-azeez, (2011), Imudia, Kaindaneh, and Baffour-Awuah (2013), Imudia, Serra and Kunc (2015), Padalkar and Gopinath (2016), Yun et al. (2016), Liu & Cross (2016).
Political Issues	Alhashemi et al. (2008), Wirick (2009), Haji-Kazemi, Andersen and Klakegg (2015), Klakegg, Williams and Shiferaw (2016).
Lessons Learned	Wirick (2009), Duffield and Whitty (2015), Love et al. (2016).

Table -3- Summary of Critical Success Factors (CSFs) studies

2.3 Performance measurement in public sector

Flynn (2007) defined the public sector, as "*those parts of the economy that are either under state ownership or under contract to the state, plus those parts that are regulated and/or subsidized in the public interest*." He identified the management in the public sector as "*having the formal authority to control and direct others in the organization and the ability to carry out activities as a project manager like planning, budgeting, performance measurement, and arranging tasks for the whole organization*".

Performance information has a significant effect in increasing the positive outcomes and enhancing learning within the organization (Behn 2006; Moynihan 2008; Rabovsky, 2014). Recently, the public sector has started using Performance Measurement Systems (PMSs) to highlight the accountability, efficiency, and equity in the system. Fryer, Antony, and Ogden (2009) provided a definition by Radnor & Barnes (2007):

"Performance measurement is quantifying, either quantitatively or qualitatively, the input, output or level of activity of an event or process. Performance management is action, based on performance measures and reporting, which results in improvements in behaviour, motivation and processes and promotes innovation."

Performance measurements are used to deliver outputs and outcomes of projects or programs. Outputs should be distinguished from outcomes. Outputs are "*the goods and services produced by a program*," while outcomes are "*the intended result or consequence that will occur from carrying out a program or an activity*" (OMB, 2003, Thomas & Fumia, 2011). To make sure that the PMS is working, a set of goals and missions must be specified. There are four main aspects of PMSs: specifying what to measure (performance indicators), choosing the appropriate tool to measure it, analysing and interpreting the data, and communicating the results (Tarr, 2004; Fryer, Antony, and Ogden, 2009). The characteristics of projects will dictate which success criteria elements are more important. For example, in construction projects, safety is among the most important factors, whereas the same factor is not so important for other types of projects in health or education sectors where quality is more important (Atkinson, 1999).

It is important to understand governmental, or public, projects before initiating them. According to Patanakul and Gopinath (2016): *"Government projects are funded for different purposes than those of private sector projects. Whereas private sector projects are driven by profit maximization and return on investment, government projects are not-for-profit and funded to make efficient use of tax resources, and increase social and democratic values, such as equality, openness, and transparency*."

The most important issue in public projects and project governance, is assuring transparency and accountability while implementing policy (Crawford and Helm, 2009; Kossova and Sheluntcova, 2016). The study of Kossova and Sheluntcova (2016) focused on evaluating the performance of Russian public-sector projects and recommended that countries like Russia, in which project management is still at a developmental phase, need to provide more transparency and more information about the evaluation results to the public. Another study by Dabla-Norris et al. (2012) declared the importance of governments conducting clear and formal guidance for the process of project appraisal in the public sector (Kossova and Sheluntcova, 2016).

It is a common practice to identify lessons learned after a project, as discussed earlier in this chapter. However, such lessons are not always satisfactorily learned. Most organizations fail to avoid repeating the failures of the past (Klakegg et al., 2010; Duffield and Whitty, 2015). From previous studies, of 74 organizations who tried '*lessons learned*' processes, 60% were dissatisfied (Milton, 2010; Duffield and Whitty, 2015). Here, many attempts were made in order to achieve the required level of competence. One of these initiatives was the Rethinking Project Management (RPM) literature that began in the 1980s, but the majority of it only started to be published from 2006. RPM considers a project as a temporary organization established by its base organization to carry out an assignment on its behalf. The focus here is on creating a value like establishing desirable development.

Recently, project success has been deemed to cover project management performance, which covers the '*triple constraints*' or '*iron triangle*'. The most common use of the iron triangle is to specify the meeting of constraints of cost, schedule, and quality. Some researchers refer to other resource limitations as well. Each component depends on the other, so if one is changed, other parts will be affected. When designing a project, one of these three components will be focused on. A PM with an overall budget will not consider cost as an essential factor during the planning phase. Meanwhile, if quality is an important element, then the PM will adjust the schedule and cost to achieve the required standards (Morris and Sember, 2008). This type of evaluation, or assessment, uses KPIs in order to measure budgets, schedules, and technical specifications (Bryde, 2005; Serra and Kunc, 2015). This is supposed to cover also the delivery to businesses, clients, and stakeholders.

Toor and Ogunlana (2010) discussed the concept of project success and its different meanings to different stakeholders. Project success even varies between the project management body and the stakeholders especially in large-scale public projects. In such projects, the number of stakeholders is large and it is nearly impossible for the PMs to communicate with them and explain the KPIs of projects. In public development projects, there are two levels of project success: macro-level success and micro-level success (Lim and Mohammed, 1999; Toor and Ogunlana, 2010). Micro-level success focuses on the traditional concept of time, cost, and performance triangle and it concerns the project's end-users. Meanwhile, macro-level success concerns the long-term benefits gained from the project and focuses on the parties engaged in implementing projects.

Golini, Kalchschmidt, and Landoni (2014) used two sets of performance measures for the public-sector organizations. The first set comprised internal project performance '*short-term*' measures, which use the iron triangle elements of time, budget, and quality. The second set are external project performance '*long-term*' measures, which consist of "*obtaining long-term project impact, involving stakeholder/partner, Ownership extension of the project to the local community, monitoring and reporting to the stakeholders, Economic sustainability after the end of the project, and satisfaction of the local community"* (Golini, Kalchschmidt, and Landoni, 2014).

Project management has proven to be an effective approach used by developing countries, but there is still the obstacle of limited knowledge among workers in projects about Project Management Processes (PMPs) (Abbasi & Al-Mharmah, 2000). The public sector faces a huge challenge from the demands of change and development, and it still uses old project management theories that should be updated in order to cope with the required changes (Gomes et al., 2008). Many academics claimed that there is a need to change the old image of the public sector through project management. It is important for public sector organizations, including non-profit organizations, to adopt the philosophies of project management (Gomes et al., 2008). They should create well-designed projects that aim to transform the traditional image of the public-sector organizations to a more open and operational system.

There is a need for project management practices to be implemented and taught to all employees who are participating in the process of delivering projects in order to create a culture of motivation and productivity. Countries like Brazil, the U.S., and the United Arab Emirates scored highly in Hofstede's study in (1980). Hofstede specified measurements like; *"culture value dimensions; power distance, uncertainty avoidance, individualism & collectivism, masculinity & feminity, and long-term & short-term orientation.*" Other countries including Thailand, Nigeria, and the U.K that score weakly in those cultural value dimensions tend to have better project management (Chipulu et al., 2014; Bredillet et al., 2010; Ramos, Mota and Corrêa, 2016).

Perry and Wise (1990) identified Public Service Motivation (PSM) as "*the belief, values, and attitudes that go beyond self-interest and organizational interest, that concern the interest of a larger political entity and that motivate individuals to act accordingly whenever appropriate*." They also proposed that "*the greater an individual's public service*

motivation, the more likely the individual will seek membership in a public organization" (Carpenter, Doverspike, and Miguel (2012).

Evaluation is defined as "*the making of a judgment about the amount, number, or value of something; assessment: the evaluation of each method*." The evaluation process can benefit employees, the organization's image and the public (Oxforddictionaries.com, 2014). Program evaluation, or *assessment*, is carried out from the organization's perspective. Program evaluation has a strategic role in the public sector, which Putit (2007) highlighted through presenting different organizational experiences. The first concerned the Canadian government when implementing a new policy demanding an evaluation system in public organizations to provide '*evidence-based information*' on the performance of what the government produces like programs, policies, and initiatives. They believed that evaluation is a powerful tool that helps managers to set the expected results and to work accordingly to achieve them. Top management expect managers to be accountable for their performance and to report results to them. Looking at experience from the Australian public sector, for each new policy proposal, there must be an attached proposal for any future evaluation system and the outcomes of the evaluation are published to the public.

The evaluation process for any project is of great importance in giving managers and decision makers an idea of what has been accomplished, what to enforce, and what to prevent in the future. Flynn (2007) declared certain reasons behind the process of setting up a PMS to manage the performance of public sector organizations. Such a system will demonstrate the accountability of the organization, i.e. public-sector organizations are expected to be accountable for ensuring that money is spent in the way it was planned and that the resources have been used as agreed upon to achieve the original targets.

In order to evaluate the performance of the organization, PMs should provide data to enhance the sharing of knowledge within the organization. An interesting study provided by Pemsel and Wiewiora (2013) found that PMs from seven different project-based organizations who were passionate about their work did not want to share knowledge or ask for it from their colleagues in the same workplace or in other branches belonging to the mother organization. This could cause a real barrier obstructing the sharing of knowledge and the ability to benefit from previous data. Yang, Huang, and Hsu (2014) highlighted the relationship between leadership knowledge adoption and its effect on project performance. They also support the impact of project performance on organizational performance. There

are great benefits to be taken from knowledge management, which promotes a positive cultural environment, embracing knowledge acquisition and KS.

Using suitable performance measurement depends on the nature of the organization in terms of services provided to the target audience. Bolch & Bugge (2013) discussed the differences between the services provided by the public sector and those produced by the private sector in terms of innovation. Even though the public sector is not driven by profit-seeking motives like the private sector, a new management trend to '*privatize*' the public sector has emerged. The public sector is required to provide effective services taking into the account cost and social needs, which makes for more complicated values than in the private sector.

There are both positive and negative effects of applying PMS in public sector organizations (de Bruijn 2002, Rantanen et al., 2007). It reveals information about outputs and promotes accountability. Unfortunately, it can also increase centralization and decrease motivation among employees. Employees in the public sector play a significant role in improving customer satisfaction and service performance in terms of responsiveness, courtesy, and credibility (Agus et al., 2007). PMs' characteristics and backgrounds can affect employees' performance, which can have a great impact on customer satisfaction. PMs in public sector organizations differ in terms of age, education, gender, and years of experience.

A study by Al Saeedi (2013) investigated the challenges facing strategy implementation in public sector organizations in Abu Dhabi. The study showed that the ratio of females to males was 5 to 6, which indicates, according to the researcher that in public organizations men mainly held the managerial positions. Regarding the age factor, most of the managers in the sample were in aged 35-44 years (41%) followed by 25-35 years (31%) and those aged over 44 (28%). The need for higher education in public sector managers was noticeable since 55% of the sample have a bachelor's degree and 27% have a master's degree. Most of the sample had work experience between 15-20 years in the public sector. In her research, Bellou (2007) compared the public and private sectors in Greece, and summarized the differences between the respondents' characteristics in the following table:

Respondents' Characteristics	Public Sector	Private Sector
Gender		
Female	*47.2%*	*60%*
-Married	*71.1%*	*39.9%*
Male	*52.8%*	*40%*
Higher Education	54.2%	32.5%
Age		
- *18-24 years.*	7.7%	28.4%
- *25-34 years.*	20.7%	41.5%
- *35-44 years.*	32.7%	19.2%
- *45-54 years.*	35%	9.4%
- *Older than 55 years.*	3.8%	1.5%

Table -4- Sample differences between employees in Public & Private sectors- (Bellou, 2007)

Previous studies have showed that there are differences in characteristics between employees and PMs in developing and developed countries, which can have an impact on their performance. PMs need to study the requirements and expectations of each project during the planning phase to choose suitable tools and methods to ensure effective performance.

The main purpose of the PMS (Rantanen et al., 2007) in any organization is to analyse the outcomes of projects through gathering information and indicators that show how well targets are being met and helps decision makers to find new methods and solutions from the displayed results. The balanced scorecard (BSC) is the best-known PMS in most countries.

"The balanced scorecard is a strategic planning and management system that is used extensively in business and industry, government, and non-profit organizations worldwide to align business activities to the vision and strategy of the organization, improve internal and external communications, and monitor organization performance against strategic goals" (Balanced Scorecard Institute, 2014).

Many public-sector organizations struggle with the balanced scorecard because they face constraints in time and effort to customize this technique to meet their needs. The study also stated that in spite of the long history of studying performance management within the public sector, major problems and expected improvements persist regarding issues of accountability, transparency, quality of services and value for money (Jarrar & Schiuma, 2007; Schalm, 2008; Jiju & Ogden, 2009).

Following claims of a lack of performance measurements in the public sector, studies have tried to investigate and compare private and public sectors. There are differences between the private and public organizations in terms of how they apply PMS (Rantanen et

al., 2007). The private sector uses PMSs to create a balance between the needs of the stakeholders, while in the public sector these systems can be very useful but problematic. One problem is that there are different and conflicting requirements of stakeholders, which can result in conflicting objectives. Another major issue is that measures should be built upon outcomes, but it is hard to specify exactly what public organizations really produce.

A study on the Dutch public sector showed that there is a clear and direct effect of contractibility on performance in the public organizations. Contractibility refers to a "*specific mechanistic notion of performance contracting in which explicit and measurable performance targets should guide public sector employees' efforts*". Researchers referred to the importance of the public manager's role in clarifying the goals to employees to guarantee success when applying any PMS. Therefore, they recommended that managers in the public sector consider how to use performance information when designing performance measurement systems (Spekle & Verbeeten, 2014).

Setting goals is the first step in designing and planning a project, where the organization specifies the objectives and goals needing to be met. Due to a certain level of performance in the public sector, some researchers and practitioners try to improve the management systems. One of those improvements was the New Public Management (NPM) approach, which claims that the public and private sectors are the same and can be subject to the same rules and principles. It aims to decrease ambiguity in the goals of the public sector (Christensen et al., 2007). Figure (3) shows that external factors such as political influence and multiple sources will cause goal ambiguity for a public organization (Pandey & Wright, 2006; Jung, 2014). This will cause role ambiguity for both managers and employees. It is very important for managers to have clear targets and goals in order to know what is expected from them and to be able to design their employees' roles accordingly. The goal-setting theory indicates that the goal can affect employees' motivation and performance (Latham and Locke 1991; Lee, Locke, and Latham 1989; Jung, 2014).

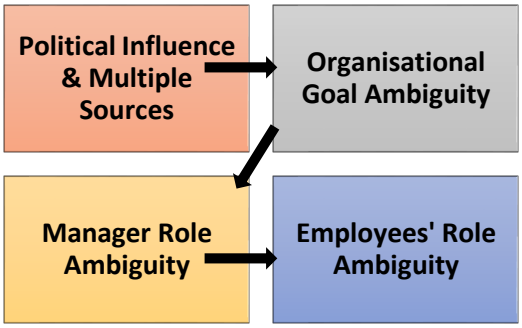

Figure -3- Goal Ambiguity in Public Organizations- Derived from (Jung, 2014)

Goal ambiguity has a negative influence on performance, but it is hard to test the influence on program level because of the difficulty in measuring goal ambiguity and gathering performance data across the public sector (Jung, 2014). Researchers have sought the best way to decrease the perception of such ambiguity. The best solutions include having better task specialization, less centralization, and more effective internal communication (Pandey and Rainey, 2006; Jung, 2014). Although there is evidence of a relationship between goals and performance, there is no certain evidence of the impact of political influence and external forces on performance. Rabovsky (2014) stated that there was little evidence to suggest that formal accountability mechanisms and political pressure can or cannot improve the use of performance management within public organizations.

Green (1992, 1994) introduced SMART[4] methodology in an attempt to highlight the objectives of the project in the planning phase. This is one of the most commonly used techniques in setting objectives and goals of the organization. In real situations, it is not up to PMs to set the goals in isolation from others. There is a role to be played by stakeholders, who have something to say about the project design and can be crucial to the success of the project. Stakeholders can affect project planning and participation in setting goals or others who are affected by the services provided by that project. Even for the governance process, it is not clear who is in charge of leading a public organization (Beringer, Jonas, and Kock (2013). Too & Weaver (2014) differentiated between governance as being the main role of the board of directors and management as being the role of middle management and executive managers. The governance process includes deciding upon which projects align with the organization's strategy and setting the principles and responsibilities of the executors of those projects. The role of management here is to make decisions within the frames set by the

[4] SMART: SMART is a best practice framework for setting goals. A SMART goal should be **S**pecific, **M**easurable, **A**chievable, **R**ealistic and **T**ime-bound (WhatIs.com, 2017).

governance body and to guide the information communication internally (the employees) and externally (the stakeholders, the board of directors, and the wider community).

Building a team is an essential task of the PM through training and interacting with team members in ways that enhance the social culture within the organization. If there is a need to implement a new system in any public-sector organization, the PMs have the key role to facilitate change and to guide the change process. A study conducted by Azzone & Palermo (2011) on public sector organizations in Italy investigated the organizational change when implementing a new reward system. They found that the four framework dimensions of external pressure, communication, power, and learning had a varied impact on the ministries' and the governmental institutions' ability to change. Such results come from a resistance within the body of the organization to adopt new systems that require more effort to learn how to use IT software as well as evaluating and reporting methods. This highlights the importance of communication and positive interaction between PMs and employees.

In the stage of monitoring and controlling the project, PMs choose suitable tools that will meet the needs of the project. Not all project management tools are effective and it depends on the PMs choosing appropriate tools for their organizations. Project management maturity is defined as "*an organization's capabilities in relation to the Project management processes (management of time, scope, quality, etc.) along the different phases of the project life-cycle"* (Ibbs and Kwak, 2000; Golini et al., 2014).

Golini et al. (2014) studied project maturity and the organization's choice of tools, and they categorised the sample of organizations into four stages of project maturity. In large organizations with big and long projects, PMs adopt all available tools, which reflects a high level of project management maturity. For example, they use WBS[5], CPM, Issue log, Earned value management system (EVMS)[6]. There has also been an increase in using tools applied in small organizations for bigger organizations. In the first stage, Progress Reports and Logical Framework are used. In the second stage, they use Cost Accounting, GANTT diagram or Project Schedule, and Risk analysis/management. Tools in stage three include Communication Plan, Organizational Chart or OBS, Milestone Planning, Stakeholder Matrix, Scope Management, Contingency Allocation, and Responsibility Assignment Matrix (RAM). One of the most significant findings is that internal performance strongly and positively

[5] WBS: A work breakdown structure (WBS) is a key project deliverable that organizes the team's work into manageable sections (Workbreakdownstructure.com, 2017).

[6] EVMS: The processes and procedures for managing certain contracts and projects (Anon, 2017).

affects external strategic performance since tools used in stages 1 and 2 have a significant effect on the improvement of internal project performance compared to the tools at stages 3 and 4.

It is very important to analyse the value of the project in the pre-design stage by answering the following questions: '*what is the item/service? How much does it cost? What does it do? What else would do the job? Would there be an alternative cost?'* Value Analysis (VA) is useful when trying to estimate the hard Value Management (VM). However, when dealing with soft VM, such as stakeholders' expectations, the organization needs more methods and techniques. This helped the VM to shift to a broader concept that can be seen in the definition provided by Green (1992): *"Value Management is concerned with defining what 'value' means to a client within a particular context. This is achieved by bringing the projects stakeholders together and producing a clear statement of the project's objectives. Value for money can then be achieved by ensuring that design solutions evolve in accordance with the agreed objectives. In essence, value management is concerned with 'what', rather than 'how'.* The term Value Management (VM) emerged recently in public sector studies. VM in the public sector is a process that "*consists of the combined application of value methodologies and other methodologies at organizational level (from strategic to operational) in order to improve organizational effectiveness*" (Morris & Pinto, 2011).

Bowen et al. (2010) conducted a study on a sample of 78 South African engineers about '*the awareness and practice of value management'.* They discussed the findings of the survey concerning the objectives and goals, which are defined for VM studies. The first objective that is selected by the sample according to its importance is "*to reduce project capital costs and optimization of value over the life of the project*". Other objectives are; *"enhanced project functionality, reduce project operating costs, effective risk management, enhanced project worth, shorter project duration, minimization of environmental impact, realization of project execution efficiencies, Effective brief management, enhanced project usability in terms of convenience and comfort, and greater flexibility offered by the project.*" They also concluded that VM is a very effective method to save time and enhance the functionality of projects.

Project management practices differ depending on the type of project (Payne and Turner, 1999; Golini et al. 2014). In their study, 500 PMs from developing countries around the world were consulted. The target of international development (ID) projects is the

community members and they do not fund the project because most of them are not required to pay taxes to the government (Ahsan and Gunawan, 2010; Golini et al., 2014). Ika (2012) stated that beneficiaries are often not included in the project design phases, which causes fatal errors in implementing the project (Golini et al., 2014). ID projects occur in different and difficult environments, which involve different stakeholders. Golini et al. (2014) discussed project management practices in (NGOs and the impact of ID projects. Recently, researchers considered PMPs as a solution to the poor performance of ID projects. ID projects take place in stable environments to enhance services and lifestyles in terms of education, health, and economy (Youker, 2003; Golini et al., 2014).

As explained before, projects are endorsed to gain benefits. These benefits can be in the form of improvement or development in a strategic procedure inside the institution, or financial/non-financial benefit for stakeholders and end-users. There are some side effects, however, as those benefits can be associated with additional required skills or extra charges and costs. The role of the PM is to guarantee good management to deliver outputs, enable outcomes, and, as a result, the whole process of project management will support the realisation of the appropriate benefits (Zwikael and Smyrk, 2011; Zwikael and Smyrk, 2015).

Problem solving is an essential part of the project process (Ahern, et al., 2014). The role of the PM is to encourage project members to fill any gaps in knowledge formation through the project life cycle. Project learning is the result of interaction between project goals (*plans, design practices, etc*.) and the experience of performing concrete actions (*detailed practices, instructions, etc.*).

PMSs & Assessment tools	**Previous Studies**
Using more than one tool to measure success.	Golini et al. (2014), Davis (2016), Laursen & Svejvig (2016).
Six Sigma	Basu (2014), Hornstein (2015), Marzagão and Carvalho (2016).
The Square Route	Atkinson (1999), Toor and Ogunlana (2010).
Earned Value Management	Golini et al. (2014), Haji-Kazemi, Andersen & Klakegg (2015), Hazir (2015).
Benefits Realization Management (BRM)	Young & Jordon (2008), Toor and Ogunlana (2010), Serra and Kunc (2014), Zwikael & Smyrk (2015), Dupont and Eskerod (2016), Laursen and Svejvig (2016).
(PMPA)	Bryde (2003), Toor and Ogunlana (2010).
Iron Triangle	Atkinson (1999), Toor and Ogunlana (2010).
KPIs	Carstens et al. (2013), Serra & Kunc (2015).
The balanced scorecard	Rantanen et al. (2007), Hoque (2008), Jiju & Ogden (2009).
SERVQUAL	Agus, Barker, and Kandompully (2007).
(EFQM) Excellence Model	Suarez et al. (2014), Calvo-Mora, Navarro-García, and Periañez-Cristobal, (2015).

Table -5- Summary of mentioned PMSs and assessment tools.

2.4 PMPPs in Public Sector

Public projects around the world face challenges such as *'political support, unclear success criteria, changing sponsor strategy, poor project definition and control, and weak quality assurance*' all of which are the main causes of the failure of public megaprojects (Klakegg, Williams and Shiferaw, 2016). There are common *'key governance*' instruments found in the study of Klakegg, Williams and Shiferaw (2016) which were concluded from examining public projects from three case studies. Among those instruments are documentation, "*comprehensive reviews & consultations, placing key at a high political level, strong project governance by mandatory intervention in individual project, and increased transparency by publishing review results on an individual project basis."* Other instruments focus on "*planning and stakeholders' participations & needs, active risk management, and focus on alignment with public policies."* The study identified elements of similarities and differences among countries, such as "*the strength of the authorized administrational bodies, variation of project types and sizes, uncertainty depending on the project development stage, and project duration*."

Alamutu, Olateju, and Abul-azeez, (2011) discussed the empirical findings from their study on the project management practices in the Nigerian public sector. They declared that the reasons, which prevent implementation of project management, are "*lack of Project management knowledge (75%), bribery and corruption (45%), lack of professional training (40%), rigid organizational structure (31%), incessant change of authority (28%), and lack of leadership commitment (25%).*" They also asked their sample about the effects of using project management tools and techniques. The sample indicate that these tools help in "*keeping up with work progress (73%), activating communication (67%),* '*good management of resources (63%), better time utilization (60%), better quality (58%), defined goals and objectives (55%), better work organization (52%).*" They also concluded that in old governmental institutions, there was more resistance to apply project management tools and techniques and that manager should gradually plan for this.

Wirick (2009) explains how difficult public-sector projects compared with private sector projects as illustrated by figure (4). Some example of the lack of project managerial skills in the public sector are the incapacity of public sector organizations to identify outcome measures and missions, the discouraging environment that contributes to project failure and unstable culture in dealing with success, and the lack of project management maturity.

Political and stakeholders' interests create challenges for managers in the public sector when hiring and choosing project team members due to tight regulations.

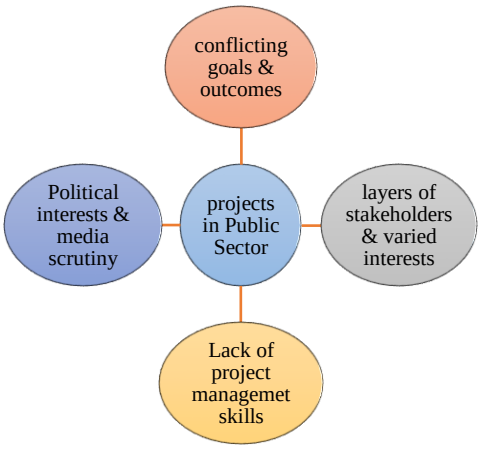

Figure -4- Characteristics of projects in the public sectors- derived from (Wirick, 2009).

According to Wirick (2009), if public organizations are serious about making their projects successful, they need to use project management as an adaptive tool that will meet their needs as long as they are patient, persistent, and creative. It is only recently that researchers tried to question and investigate PMPs (Hodgson and Cicmil, 2006; Blomquist et al., 2010; Lalonde, Bourgailt, and Findeli (2012). Since 2006, researchers have shifted the focus from '*project management*' to the '*management of projects*' because it allows other aspects to be noted in relation to the process such as policies, strategies, communication, social dimensions and behaviours. It can be said in short that there has been an interest shift from studying best practices and processes (perspective models), before 2006, to the project actors (actor-based models). In 2009, researchers grew more interested in practice-based and reflective models, learning what project actors do and how they do it.

Abbasi and Al-Mahrmah (2000) conducted a study in Jordan to investigate the project management practices in the public sector of a developing country. The results showed that the majority of the sample were using Project Management Software, Organizational Breakdown Structure (OBS), followed by Time Cost Analysis. Meanwhile, only 28.1% use WBS and 21.9 % use Program Evaluation and Review Techniques (PERT). Morris and Sember (2008) discussed PERT, which is a formula that helps the PM to identify activities and milestones within a project by creating a WBS and defining activities. Thereafter, the PM determines the activity sequence and creates a network diagram. The final part is time estimation and determining the critical path. Organizations have systematic practices to make sure they accomplish performance management systems without changing or redesigning

their processes or evaluation systems. Others tend to redesign their practices or evaluation systems to satisfy each project criteria (Cao & Hoffman, 2011).

Hazir (2015) focuses on analytical models, approaches, and decision support tools in project monitoring and control. Among the most used tools is the EVA, which is *"a managerial method that monitors and controls projects and it is based on comparing the actual and the budgeted values of the work performed, the time taken and costs incurred*." Simulations and statistical control charts are used to support decision-making. Verbeeten (2008) distinguishes between quantitative and qualitative performance in the public sector. Quantitative performance entails quantitative aspects like resource usage (*budget depletion, or economy*), number of produced outputs, and efficiency. Qualitative performance is seen from operational quality such as in accuracy, strategic capacity, and long-term effectiveness.

In a *project-oriented* organization, leaders should pay attention to the training and development of employees dealing directly with all stages of delivering projects. Ramazani & Jergeas (2015) argued that the current training programs and education for PMs do not really prepare them for the actual world in which the complexity of projects is increasing every year. The training programs should include actual complicated situations in which trainees need to work out appropriate project management plans. One interviewee indicated that in the real world, TMs expect project managers to be more flexible and to demonstrate a mixture of different skills such as technical project management competencies, as well as interpersonal and leadership behaviours.

An organization's societal culture can influence the Employees-Organization Relationships (EOR) (Fitzsimmons & Stamper, 2014). Managers should be aware of societies working within the organization in order to fulfil their expectations, respect boundaries, and overcome obstacles. Societal culture is defined as "*a system of shared values, beliefs, and behavioural norms, which learned and passed on from one generation to the next through the laws, policies, and actions of a society*" (Triandis, 1995; Aycan et al., 2000; Thomas et al., 2010; Fitzsimmons & Stamper, 2014). Here, there is a need to pay attention to the social environment inside the organization, since it can affect the internal and external image of the organization.

There is some limitation in the output-focused project management approach as it focuses on delivering project outputs according to iron triangle factors, which are time, budget, and specifications. This approach neglected Project Benefit Realization (PBR). Now

it is more important to focus on the project benefits before setting the outputs, especially in large-scale governmental projects. The importance of such a step is in meeting the organization's strategic goals and supporting outputs. Strategic goals are organizational-level business objectives and they guide the design of tactical goals or, in other words, the *project target benefits*. The third type of goals are operational goals, which refer to the settled budget and schedule for delivering the project outputs. Researchers have suggested the Logical Framework Approach (LFA) to link the three types of goals and this is used widely in ID projects to monitor and evaluate result-oriented projects (Chih and Zwikael, 2015).

The main factors to guarantee a successful deliver of public projects are the strength of the operating environment, communication strategy, and the clarity of goals and roles (Blixt and Kirytopoulos, 2017). Other recent reports confirm such a statement as in the PMI (2017) report about the latest statistics rates of the (*9th Global Project Management Survey-Pulse of the Profession*). The report discusses the responses of 3,234 professionals from different industries and countries worldwide. In this particular report, PMI investigated the project success by applying *'benefits realization maturity'* with the traditional measures. Among the significant findings;

1. Project management measures, change and risk management practices, and resource management are the most used among the sample in their organizations.
2. PRINCE2 is the least used with (2%) as always, (6%) often, (14%) sometimes, (20%) rarely, and the majority indicated that they do not use it (59%).
3. (57%) of the sample believe that their organizations understand project management value.
4. The sample rates the success of their organizations in executing initiatives/projects to deliver strategic results as being excellent (25%), good (57%), and fair (17%).
5. The primary causes of project failure are change in organization's priorities (41%), inaccurate requirements gathering (39%), change in project objectives (36%), and inadequate vision/goal for the project (30%). Cost and time inaccuracy estimation came in the middle with (28%) and (26%).
6. When asked *'how high a priority is each of the following within your organization?*' the least priority was *'creating a culture that values project management'* with (23%) as high and (41%) as somewhat high.
7. The sample evaluated the *'success of their organizations in feeding lessons from successful and failed implementation back into strategy formulation'* as last over the

last three years and even in the importance and impact of those aspects on the organization competitiveness.

In their report *'Driving Business Performance Project Management Survey'*, KPMG (2017) targeted a sample of 188 project management professionals, senior executives, and business representatives in New Zealand. New Zealand scored the eighth place in the list of the happiest countries in the world, while it scored tenth in the top 10 in best healthcare system. The report displays and discusses several findings;

1. (61%) of the organisations feel that project success rates have improved over the last 2 years, despite consistent project failure rates.
2. (80%) of the organisations are using more than one project management methodology. (21%) of projects are consistently delivering on their benefits, (33%) delivering projects that likely to meet original goals or business objectives, and (34%) of projects achieve stakeholder satisfaction.
3. (31%) of organisations are likely to deliver projects on time, while (29%) are likely to deliver on budget.
4. PRINCE2 is the most commonly used guidance with (54%), in-house methodologies came second with (52%), (43%) use agile methodologies, while PMBOK based methodologies came last with (30%).
5. The study suggests obtaining the '*link project outcomes with organizational strategy*'.

Pūlmanis (2014) studied the efficiency problems of public project management in the case study of Lativia, which is a developing country. The participants of the survey were (97) out of (119) municipality project management specialists. The study found that (53.21%) of the participants indicated that SMART principle is not used in setting priority goals, while (18.35%) disagree with that. Among the most used project management methods during the planning phase is the risk analysis (79%), while the WBS scores (27%), and other tools like Gantt, GERT, and PERT came last with (6.3%). GetApp conducted a survey of more than (200) Based-PMs in U.S.A. When asked about the used software, (67.33%) indicated that they use Microsoft Project Software (Maffeo, 2017). The most used features in the project management software are; task management (18.72%), budget management (13.51%), collaboration (10.74%), portfolio management (9.86%), reporting (9.63%), requirements management (9.19%), and Gantt charts came last with (2.55%). Golini et al. (2014) indicated as a result of their study on the organization use of project management tool in relation to

project maturity that in developed stage tools include Communication Plan, Organizational Chart or OBS, Milestone Planning, Stakeholder Matrix, Scope Management, Contingency Allocation, and Responsibility Assignment Matrix (RAM).

Hwang, Zhao, and Gay (2013) applied eight CSFs for PPP projects in Singapore. These CSFs were '*well-organized public agency, appropriate risk allocation and sharing, strong private consortium, transparency in the procurement process, clearly defined responsibilities and roles, clarification of contract documents, favourable legal framework, and shared authority between public and private sectors'.* Lauras, Maraques, and Gourc (2010) proposed a project PMS in multi-criteria performance measurements. The diversity of stakeholders' interests should be taken into consideration when writing final reports or documentations. They developed the '*P-Cube model*' where the PM is first to scale the Cube i.e. to break down project tasks, and design and weight KPIs by applying PMI knowledge areas and BPM analysis axes for each task and using the MACBETH technique. After that, performance is analysed and decisions are made.

Khan et al. (2013) studied the literature of success factors for a long period and developed a model of CSFs (Joslin and Muller, 2015). It contains eight success criteria: '*time, cost, quality, efficiency, organizational benefits, project impact, stakeholder satisfaction, and potential*'. They chose project governance as a mediator variable factor for their research model. Researchers defined project governance as external or internal factors to projects. The majority of them see it as internal to a specific project, which means that the essential role of Project Governance is to ensure that the project will fulfil the goals and expectations planned by different stakeholders (Ahola et. al, 2014).

Deciding how to fund a project can be crucial in evaluating the success of any project, which can influence the performance of the whole organization (Williams & Samset, 2010; Chih and Zwikael, 2015). In order to fit the Project Target Benefits (PTBs) to meet the organizational strategic goals, they should have a target value and a date. They must be accountable, measurable, realistic, and comprehensive. Participants in the study argued that including stakeholders while formulating the PTBs could be detrimental since they may include government figures. They also pointed out that the public structure is complex, made up of national, regional and local bodies. Payne and Turner (1999) were the first to claim that PMs often achieve better results when they customise the PMMs according to the characteristics and size of projects (Golini et al. 2014).

The organization cannot achieve its promised benefits if it selects a standard methodology that does not fit within the framework of the organization (Garcia, 2005; McHugh and Hogan, 2011). Some organizations adapt their PMM from external standards such as the PMBOK® (Zielinski, 2005; McHugh and Hogan, 2011). Both PRINCE2 and the PMBOK® are flexible in their design and can be customised to suit the needs of any organizations with many organizations selecting, adapting and implementing only the processes from the PMBOK® methodology that suit their needs (Forrester, 2006; McHugh and Hogan, 2011).

According to PMBOK® (2013), there are nine knowledge areas of any project:

1. Project Integration Management.
2. Project Scope Management.
3. Project Time Management.
4. Project Cost Management.
5. Project Quality Management.
6. Project Human Resource Management.
7. Project Communications Management.
8. Project Risk Management.
9. Project Procurement Management.

Wirick (2009) relates these knowledge areas to the processes of projects in the public sector. Table (6) has been developed according to his work.

Processes	Public Sector Project Functions
Project Initiation (***Framing and initiating the project)***	***Developing the Project Charter that contains:*** 1. Need for the project & solution used. 2. Assumptions, Constraints, and Assets. 3. Stakeholders' Identification. 4. A detailed scope & deliverables definition. 5. Stakeholders' Requirements. 6. Estimation of Costs. 7. Project Schedule & Summary Milestones. 8. Related Laws & Rules. 9. High-level Risks. ***Official agreement*** on *Project Charter* from all stakeholders.
Project Planning (***Developing the project plan)***	***Developing the project plan that contains:*** 1. Project Charter. 2. WBS. 3. Activities Definition & Sequence. 4. Estimation of Activities Duration & Resources. 5. Detailed Budget. 6. Quality Plan. 7. Human Resource Plan. 8. Communications Plan. 9. Risk Management Plan. - *Risks Identification.* - *Qualitative Risk Analysis.* - *Quantitative Risk Analysis.* - *Risk Responses Plan.* 10. Procurements Plan.
Project Execution ***(Performing the project work)***	1. Assigning duties to project staff. 2. Overseeing the creation of project deliverables. 3. Checking the quality of deliverables. 4. Identifying requested changes in the project, evaluating them, and modifying the project plan accordingly. 5. Preventing unnecessary changes. 6. Conducting project team meetings. 7. Dealing with known and emerging risks.
Project Monitoring and Control ***(Comparing the work to the plan and managing changes)***	1. Informing stakeholders and oversight agencies of project changes. 2. Clarifying alleged failures to comply with rules, laws, and policies. 3. Requesting exemptions from rules. 4. Identifying the causes of variations from the plan and taking corrective and preventive actions. 5. Evaluating project staff performance. 6. Requesting additional resources. 7. Engaging in change request activities for vendor contracts. 8. Working with procurement and legal experts to determine actions taken for contracts problems. 9. Working with stakeholders to revise project and product requirements. 10. Reviewing vendor invoices and payments.
Project Closing	1. Compiling project archives. 2. Terminating vendor contracts and authorizing final payment. 3. Identifying and reporting lessons learned to oversight organizations. 4. Revising job descriptions to remove project responsibilities. 5. Evaluating team members. 6. Creating documentation of final project outcomes or products.

Table-6- Processes and functions of projects in public sector, derived from Wirick (2009).

Ruiz-Martin and Poza (2015) studied the PMBOK® knowledge areas in terms of network theory. They stated that no specific area is more critical to the project's success than any other is, and it is mainly the PM's job to decide which area(s) to develop depending on the project characteristics. They concluded, after their analysis of PMBOK® 5th edition, that a project "*is a complex system that should be managed as a whole and not area by area*". They also echo previous literature findings that "*change request, work performance information, and risk register are the most connected and important documents in project management.*" Their last conclusion is that there is a need to alter the documentation process in PMBOK® to establish a better connection among documents.

2.5 Public vs. private sectors

Following continuous calls to improve public services, especially when compared with the private sector, some case studies are summarized to compare both sectors in terms of performance. Mann (1984) declared that an *"increasing number of nations have developed public-private sector distinctions that are not merely theoretical but are widely recognized to be of great importance to their societies' functioning*" (Bozeman and Johnson, 2014).

Christensen et al. (2007) stated that public and private organizations differ in terms of values and interests. The public sector relies on people's support and the government selects the leaders. There is also a focus on openness, transparency, equal treatment, impartiality and predictability. For the private sector, there is a clear and specific type of activities unlike the case in the public sector, which can cover numerous areas. Although the public-sector deals with the challenge of multifunction tasks and projects, employees have an opportunity to create an environment that allows them to be flexible, creative and have a personal impact on the management process.

In a study conducted by Bellou (2007), there was a comparison made between the Greek public and private sector. The study aimed to identify employees' perceptions of organizational obligations. Public sector employees were more concerned with morality issues such as respect from supervisors and co-workers, and the provision of equal opportunities for all. They also demanded clear rules and a reward system for good performance. The private sector employees were less concerned with job security as they agreed to the organization's short-term employment system. Employees from the private sector have the advantage of taking part in the decision-making process due to the organizations being of smaller size and being less bureaucratic than those in the public sector.

There are more lessons to be learned from public management reform in Malaysia (Siddiquee, 2010). The NPM in Malaysia aims to apply private sector values in the public sector to improve its efficiency, effectiveness, and general performance. One of the important lessons from this study is that managing for the purpose of results should be accompanied with developing the capacity and skills of the people involved in enacting the reform. It is also important to gain the support of the leaders to guide them through the ongoing process.

Public sector reforms in four developing countries in Asia were evaluated (Bhuiyan & Amagoh, 2011). The selected countries were Malaysia, Singapore, Sri Lanka, and Bangladesh. The results indicated that the public programs in Malaysia and Singapore were more relevant and had more political commitment and stronger leadership to empower the reforms. Siddiquee (2006) found that the success of public services delivery and governance procedures were attributable to collaboration between private and public sectors. The continuous emphasis on customer satisfaction, the quality of provided services, and the use of information and communication technology all helped to improve quality.

Private organizations can learn from leading public-sector entities according to Heracleous and Johnston (2009). Taking Singapore International Airlines (SIA) and the National Library Board (NLB) as examples of leading public entities, they use technology to enhance efficiency with competitive services that aim to achieve long-term strategic goals. In most private sector organizations, technology is used to cope with temporary goals such as improving customer services or dealing with budget cost reduction. Another lesson that can be learned is to aim high with your goals, and not to go through a sudden strategic change because you are facing an unexpected crisis. There should be a high sense of competition, reflected by the SIA's goal to be '*beyond the first*' airline. For the NLB, it seeks to change the traditional image of libraries to modern and welcome places or '*knowledge communities*'.

To sum up, it is not difficult for a public organization to compete even with the leading private sector organizations according to the examples presented earlier.

2.6 Project Value in Public Sector

Kassel and Berman (2010) identifies the public project as "*a temporary endeavor, undertaken, managed, or overseen by one or more publicly funded organizations to create a unique product of public value*". The value of projects is a core element for an organization's business strategy since it seeks to add value to the services provided to its customers (Too and Weaver, 2014). The value of a project means *"the explicit and implicit functions created*

by the project, which can satisfy the explicit and implicit needs of stakeholders" (Zhai et al., 2009; Too and Weaver, 2014). Value can be achieved if the "*project's output (product, service or result) is used by the organization to generate the intended outcomes and the outcomes enable the realization of a range of expected and other benefits"* (Jenner, 2012; Too and Weaver, 2014)

Examining the value of a project is highly important, and helps the organization to identify benefits for stakeholders, to measure success, and to make improvements in the overall efficiency of a project. Miles (1946) indicated that VM is considered successful if the "*the product or service has appropriate performance and cost*". The concept of VM was developed in the 1950s and remains as one of the most popular project management practices used to measure and control the value(s) generated during a project. It reflects the ratio of customer satisfaction '*benefit*' against resources used '*cost*' (Gillier, Hooge, and Piat, (2014).

Governance helps an organization to establish an internal framework of ethical decision-making and managerial action, which is based on transparency, accountability, and defined roles. Good governance is essential to providing sustainable value for the organization and its stakeholders. Management should manage the organization according to this framework, which is provided by the governance system. The governance system sets out different structures to be used by the organization, identifies rights and responsibilities, and creates a framework to monitor and evaluate the application of management within these structures (Muller, 2009; Too and Weaver, 2014).

The public sector does not have the same meaning in every assessed country. That is why Van de Walle (2008) referred to the public sector as an invalid indicator to determine European countries' rankings in performance assessment reports. He indicates that there are different concepts related to the public sector such as administration, and government, which mean different things in different countries. According to Van de Walle (2008), it is hard to define terms like '*government*', '*public administration*', or '*quality and performance*'.

Public organizations include ministries with different departments that conduct different kinds of projects. Recently, there have been more Project-Based Organizations (PBOs). Artto et al. (2011) identified a PBO as "*an organization that is capable of handling many projects, they are organizations in which the majority of products or services are produced through projects for either internal or external customers*."

According to Imudia, Kaindaneh, and Baffour-Awuah (2013), projects can fail at each stage and to avoid such failure, a clear understanding of the project's aims and objectives, team tasks and continuous evaluating system should be in place. He highlights the importance of commitment from and to the government and donors to meet their obligations. There are warning signs that the PM should be aware of to detect any possibility of failure before it occurs. Multitasking, such as having team members working on multiple projects, can slow down their effectiveness and hinder their achievement. Another warning sign is process inefficiency reflected by not meeting milestones or delay, which is common in the public sector. Over-scheduling and a lack of communication are also important signs that should not be neglected. It is important for public sector organizations to set clear targets and objectives in order to become effective and productive. Effectiveness is defined by Drucker (1974) as "*doing the right things to meet the organization's objectives*". This means that an organization should achieve or exceed the external targets while trying to maintain an appropriate level of employee satisfaction (Neely, 2002).

Flynn (2007) highlighted the '*three Es*', economy, efficiency and effectiveness. A fourth 'e' has also emerged, which is equity. It is very important for a manager in the public sector to stay within budget on an annual basis. There is a dilemma here for the PM who wants to make sure that performance standards are met. When consistently making sure to achieve the expected goals and to satisfy the stakeholders, he must not overspend in the process. The efficiency of an organization is defined as "*whether the organization produces the range of services that reflects the preferences of citizens or their representatives.*" Agus, Barker, and Kandompully (2007) in their study of the relationship between service quality, service performance, and customer satisfaction in the public sector, developed a conceptual framework, which is derived from the original SERVQUAL instrument. The major findings of this study focused on the need for customer-oriented approaches that focus on enhancing public service quality. The service dimension, according to the results of the study, "*encompasses responsiveness, access, credibility, courtesy, tangibles, understanding the customer, communication, reliability, and competence*."

The Worldwide Governance Indicators (WGIs) are the most comprehensive indicators for assessing the performance of public administrations. They covered more than 213 countries and started to measure performance from 1996 (Van de Walle, 2008). Kaufmann, Kraay, and Mastruzzi (2008) provided a report of the result of the WGIs. The indicators measure six dimensions of governance: "*voice and accountability, political*

stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption." The report discusses government effectiveness in terms of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of government's commitment to such policies.

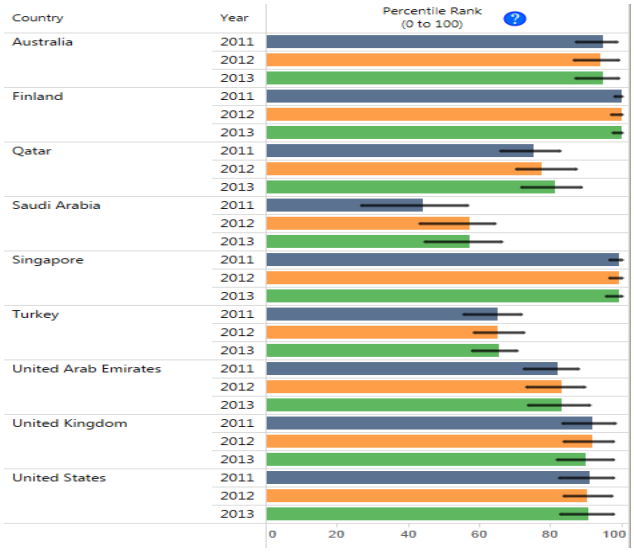

Figure -5-Government Effectiveness, World Governance Indicators, (2015) - International Perspective

Figure (5) shows a comparison of the governmental effectiveness of leading developed countries and some developing countries in the period of 2011-2013. In figure -6- , Gulf Countries are chosen to focus on the gaps between them in terms of governance effectiveness.

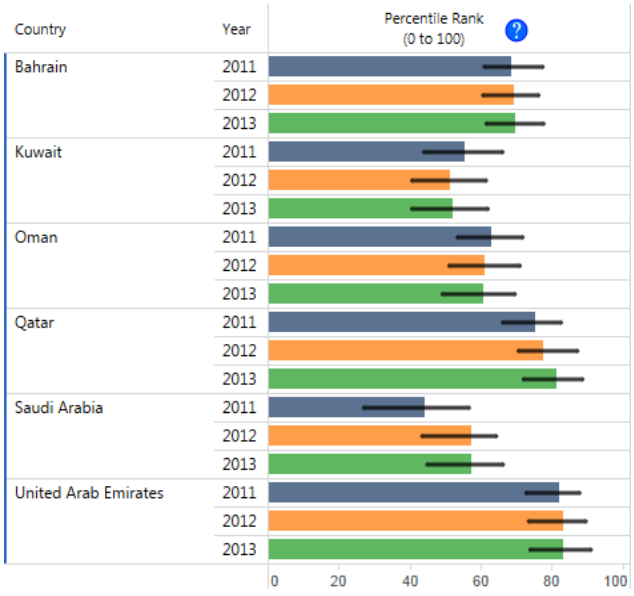

Figure -6- Government Effectiveness, World Governance Indicators, (2015)-GCC

2.7 Public Sector Management…. International perspective

Public projects' characteristics are summarized by Patanakul et al. (2016): *"pursuing non-financial target benefits, having a long product service life, dealing with multiple stakeholders, being a large and complex megaproject, being susceptible to political environment and dynamics, and following a mandated project management process*."

Mack and Ryan (2007) conducted a survey in 105 governmental and public organizations in Queensland to find out if there was an audience for public annual reports. They found that annual reports were deemed an important source of information, but less important than newspapers, TV, or radio. For the respondents, direct interaction with the government was more important than all other indirect methods. Luoma-aho (2008) claimed that it is important for public organizations to maintain a '*neutral reputation*', which means they should be aware of the impact of their past activities, which may influence their future performance or the performance of new public organizations. She also indicates that the more a public organization is flexible with clear processes of management and reporting, the more it can maintain a positive image in the eyes of the public.

Monfardini (2010) argued that it is not enough for government to provide a quantitative dimension of performance as found in annual reports. There are other important qualitative ways to share outcomes with the public such as in TV programs, radio talk shows, webpages, and open meetings. The Swedish government engages the public at all stages of planning: "*designing the activities, budgeting, registering for meetings and updating all registered citizens of meeting agendas and any decisions made by the council. The public are also participating on the boards of local institutions*."

Many researchers highlight the change in performance management approaches in the public sector from "*single performance objective of managing inputs and outputs to multiple objectives such as service outputs, satisfaction, outcomes, trust and legitimacy*" (Smith, 2004; Kossova and Sheluntcova, 2016). The importance of project management practices in the public sector occurs only when ascertaining value budget expenditure.

Rantanen et al. (2007) discussed the case studies of some Finnish public-sector organizations to test the results of implementing PMSs in each of them. The first case was of a medium-sized university in which a new PMS was implemented in teaching, research, and production of services for the community. The results of the questionnaires showed that the

original purpose of the system was unclear. All interviewees, except the '*rector*' who launched the program, thought the program was to support the management or lead operations. Researchers noticed that there was no timetable or solid budget in place. Another case examined was of a Finnish state agency that is directed by the Ministry of trade and Industry. The agency wanted to develop a productivity measurement system to find out how effective the organization was and how it could better satisfy the stakeholders' needs. The results of the questionnaire showed that the purpose of the evaluation system was unclear. The interviewees mentioned that the responsibilities were not clear among team members and that the group leaders lacked the required knowledge in management since they were all technological specialists. Linna et al. (2010) showed the difference between productivity and effectiveness in terms of evaluating public services provided through the Finnish government. Respondents chose the term '*effective*' to describe healthcare and educational services.

Gomes, Yasin, and Liboa (2008) conducted a study on Portuguese PMs in the public sector who seemed to know project management tools and characteristics. PMs' knowledge and awareness of project management key factors is important to drive any organization through a smooth change. Another study is provided by Verbeeten (2008), which investigated the impact of performance management practices in public sector organizations on the performance of organizations in the Netherlands. The researcher tried to distinguish between quantitative '*use of resources, produced outputs, and efficiency*' and qualitative '*accuracy, innovation, and long-term effectiveness*' performance. The study revealed a clear and positive relation between having clear and measurable performance goals and achieving the desired quantitative and qualitative performance.

Hoque (2008) examined four public sector organizations in Australia concerning the techniques used to measure and report outcomes and outputs. The results supported that for a public organization to develop its performance, it is essential to keep an ongoing system of reporting and well-designed performance measurements that are inspired by the input, previous outcomes, and governmental rules and regulations. The Australian state treasury sets requirements for the public sector in reporting on '*planning, efficiency, effectiveness, performance, delivery of services to the community, and managing for outcomes*.' Managing for outcomes consists of specifying the outputs, measurement of the organizational performance in terms of quality, quantity, timeliness and cost of outputs, as well as budgeting, accounting and reporting according to the accrual methodology. One of the agencies being studied used the balanced scorecard to develop new CSFs that fitted the scope of the

organization. The new planning and control framework includes the "*values of the organization, communications principles and customer charter, annual input from customers and staff surveys, strong linkage between the corporate business unit and individual performance plans, staff development, risk management, and information communication technology plans linked to business outcomes review and reporting against KPIs.*"

Turkyilmaz et al. (2011) conducted a survey in Turkey, a developing country, to measure employees' satisfaction in the public sector. The employees agreed that training and personal development helped in enhancing innovation and in creating a better organizational culture. They also demanded a better quality of physical working environment and conditions with tasks clarified in order to improve workers' effectiveness and increase communication among departments and employees. Recognition and reward was the third factor to affect employees' satisfaction, which could be addressed through the PMSs. A fourth factor was the empowerment system in which the employees participate in activities related to the management process and aim to shift from the traditional concept of leadership to a more flexible style. Teamwork was the least important factor in terms of securing the employees' loyalty and satisfaction.

According to Bao (2009), there are demands from Chinese SMs in public and private sectors three main areas: motivation, constraints, and opportunities. For SMs in the private sector, it was agreed that good teamwork, achieving set goals, promotion and training are all leading motivation factors. Meanwhile, remuneration was the leading motivation factor for the public sector. The constraints that should be controlled in order to achieve effectiveness in the private sector are a '*lack of teamwork, ineffective leadership, lack of relevant people skills, lack of resources, lack of communication, and the shortage of appropriate staff*.' For the public sector, the main constraints are the '*lack of time, work overload, inappropriate resources, poor remuneration, the lack of funding, and shortage of appropriate staff.*' Private SMs see that teamwork, effective communication, necessary resources, training, appropriate motivation and appropriate staff are all key to achieving effectiveness. SMs in the public sector consider there to be opportunities in setting realistic targets, training, necessary resources, appropriate staff, teamwork, better remuneration, and funding. There is a significant challenge in applying goal-setting theory in the public sector, because goals in the public sector are not clear or cannot be easily measured. That is why most studies have focused on applying this theory in the private sector rather than the public sector (Chih and Zwikael, 2015).

There is a particular type of projects carried out in the public sector since public organizations operate to serve the public above all. There are four main factors when summarizing the nature of projects in the public sector: '*overlapping oversight mechanisms, short planning horizon, contentious environment, and overlapping service delivery mechanisms.*' Essentially, there are different parties that are in charge of projects' oversight in the public sector and they depend on the government system. The short planning horizon is a noticeable factor where projects are subject to new changes in ministers or elected members with their own visions and governmental demands. There is huge pressure on managers in the public sector because of media criticism and political opposition, which creates a contentious environment for PMs. The last main factor is the overlapping service delivery mechanisms, such as having different funding resources in education or healthcare, which creates a challenge for the PMs to meet all resources expectations and deliverable demands (Wirick, 2009).

According to Wirick (2009), projects in the public sector may fail for many reasons, many of which relate to the skills of PMs and outside pressure. Public sector projects may fail due to '*failing to identify the customers' needs, resources, technology, competition desires, controlling unexpected events, experience, prior learned lessons, and the project's scope.*' Outside factors are those related to '*the public environment and are shown through changing managerial decisions and priorities, stakeholders' conflicts, political processes, delay in giving authorization, satisfying oversight agencies, and unstable administrative rules for purchasing and hiring.*'

Van Eijck and Lindemann (2014) investigated how Dutch managers of housing associations create PV. They found that managers do not engage with stakeholders and their decisions were led by agenda and policies. Gnan, Hinna, and Monteduro (2014) wanted to understand the impact of the PV approach on the performance and legitimacy of Italian universities. They found that the Ministry of Education in setting the strategic goals played a dominant role and great autonomy was given to departments and academies, which provided little room for development.

2.8 Research Contribution & Questions

This research aims to find a specific assessment tool that suits the characteristics of projects in the public sector and can provide a good alternative to private sector tools. The aims and values of projects in the public sector differ from those of the private sector and need

specific success criteria to guide the PM to meet the public's needs. According to Wirick (2009), if public organizations are serious about making their projects successful, they need to use project management as an adaptive tool that will meet their needs as long as they are patient, persistent, and creative. A late study by Klakegg, Williams and Shiferaw (2016) indicated that public projects around the world still face challenges such as *'political support, unclear success criteria, changing sponsor strategy, poor project definition and control, and weak quality assurance*' all of which are the main causes of the failure of public megaprojects. Spekle & Verbeeten (2014) referred to the importance of the public manager's role in clarifying the goals to employees to guarantee success when applying any PMS. Therefore, they recommended that managers in the public sector to consider how to use performance information when designing performance measurement systems.

There is a gap in the literature in applying the theory of PV through the field of project management. The study searches for the best project management practices in order to implement values and test them as success criteria in the public sector. The study contributes to the research literature as a new attempt to apply the developed success criteria in the public sector in Qatar as a case study. The findings of the study, as mentioned in the introduction chapter, is limited to Qatar, but the theoretical framework, which is developed from previous international studies can be a starting point for other researchers who are interested in investigating PV creation in other countries. Other researchers or practitioners can try to apply the proposed tool on other projects to test how useful and applicable the tool in different regions and industries.

Implication for Theory:

The current study comes as a response to researchers calls to practice PV and apply research to develop and evaluate new techniques, to examine successful conditions, and to set the guidelines for application (Helden and Northcott, 2010; Guthrie, Evans, and Burritt, 2014). It also deals with the lack of existing measures designed based on the PV concept, and the difficulty to transfer the abstract concepts of PV into a process of operation (Hills and Sullivan, 2006).

Implication for Practice:

It is not a matter of mastering PM in public sector as long as this is accompanied by equal level of achieving cultural value dimensions (Chipulu et al., 2014; Bredillet et al., 2010; Ramos, Mota and Corrêa, 2016). Researchers admit that PMS are used in public sector, but public projects still face major problems and still in need to improve accountability,

transparency, quality of services and value for money (Jarrar & Schiuma, 2007; Schalm, 2008; Jiju & Ogden, 2009). If the outcomes are not clear and identified accurately in the public sector, the using of PMS will not be that useful as compared to private sector (Rantanen et al., 2007).

Public managers are required to provide evidence of creating values. There are essential factors when measuring PVs, while managers have to achieve their goals efficiently and effectively (Moore, 1995). The proposed tool helps the PM to document his/her work in order to provide an evidence of creating PVs. The components of the proposed tool are the results of joining the best practices of project management, as recommended by Laursen and Svejvig (2016) to focus on capturing value by combining basic knowledge offered by PMBOK® with the benefits considered in PRINCE2, and the outcomes of the data collecting methods in the current study.

In light of what has been outlined in the previous literature, the study aims to answer the following questions:

- ***Is Public Value an important aspect in PMPPs in public Sector in Qatar?***

1. What is the current application of PV in PMPPs in Public Sector?
2. How can PV be used as an assessment tool for Public Sector projects?
3. How effective is the proposed assessment tool?

2.9 Summary

Chapter 2 provides an overview of the previous literature regarding the topic of PMPPs in general. This chapter includes project management terminology, tools and techniques, and performance measurements. The public sector is highlighted by comparing case studies of the private and public sectors, and the CSFs applied by researchers worldwide. Towards the end of the chapter, there is a discussion of the values generated by projects in both sectors and researchers' attempts to measure them. Finally, the contributions of the study are discussed by referring to both the theoretical and practical levels.

Chapter 3: **Public Sector in Qatar**

3.1 Introduction

The current chapter summarizes the findings of empirical studies conducted in the Gulf Cooperation Council (GCC) and specifically in Qatar. Studies in this area have generally focused more on financial issues. Here, the Qatar National Development Strategy (QNDS) 2011-2016 and Qatar National Vision 2030 (QNV 2030), which are the foundation of the modern movement towards enhancing public performance, are examined.

The Qatar National Project Management (QNPM) is the first and only initiative to implement project management in Qatar's public sector. Other studies highlight the importance of such a study for the whole region.

3.2 Public Sector in Qatar

Alhashemi et al. (2008) focused on the Failure Factors (FFs) for PPPs in the United Arab Emirates. Researchers studied such factors using case study methodology over three projects. From the results, FFs include the lengthy period of time, which is consumed by the public body to reach a final decision, time management issues, extra cost due to late delivery, and the lack of political support. For another project, FFs included weak channels of communications between different parties, which would otherwise embrace transparency, and trust among team members.

Most relevant literature that discussed challenges in the GCC public sector focused on education, finance, and health. Kinninmont (2009) declared that focusing on the education sector only would not address the challenges faced by the public sector in the GCC. Such challenges are the shortage of national labour force, lack of skills, financial sufficiency, work ethics and other related issues.

The development process of the QNDS was adopted in 2010 by representatives of all sectors of the Qatari community, formulated under the supervision of six leading members. This process came from a need to implement the strategy as an outcome of the QNV 2030, which was initiated in 2008. The process consists of conducting meetings and workshops in which representatives of 14 sectors of society gave their opinions and outlined their needs to shape the input of the strategy according to their specialties (Mdps.gov.qa, 2016). The Ministry of Development Planning and Statistics (MDPS) states through their website:

"Ministries and agencies will need to take ownership of the National Development Strategy 2011-2016, develop their own operational plans and accept accountability for delivery. The strategy will have to influence processes that drive decisions on how resources should be used and provide operational tools for assessing individual projects and policy proposals in an integrated way. Qatar's political leaders will drive the changes foreshadowed in the Strategy. They will demand information on progress. Individual ministries and government agencies will be accountable for implementing the elements of the Strategy that fall within their mandates. This accountability will need to be matched by commensurate delegated authority and empowerment across and within agencies."

(Mdps.gov.qa, 2016)

The QNDS comes with a need to transform its components into *'achievable results*' and to focus on *'quick wins'*, strongly related to project management strengthening and implementation:

"Successful implementation will require closing information gap. There are data gaps in virtually all sectors. Indicators need to be developed that measure Qatar's progress in achieving the targets of the National Development Strategy 2011-2016. At a project level, continuous ministry and agency tracking of milestones using built-in systems for monitoring process (outputs) and results can strengthen accountability for delivering agreed outcomes and can provide critical information on performance."

(Mdps.gov.qa, 2016)

The evaluation process of implementing QNDS involves a mid-term assessment during the second half of the year 2013. Projects are evaluated by the end of the plan to encourage an atmosphere where accountability dominates and the use of *'lessons learned'* benefits the next National Development Strategy.

3.3 QNV 2030 and QNSP 2011-2016

The initiative of QNPM was conducted by the Planning Council in 2004. The goal of this initiative was to build and enhance project management capacity among governmental and public organizations in Qatar. This reflected a worldwide trend to equip public employees with practical tools needed in order to deliver meaningful outcomes to meet both time and budget targets. This step was introduced through a series of workshops entitled '*Outcome-Based Strategic Planning Workshop*', which were organized and introduced by a foreign company that studied the whole QNPM project.

This initiative echoed researchers' calls for adopting outcome-based planning, management, and reporting systems to meet three basic needs. First need was to serve the priorities and interests of higher authorities. Second, to address the needs of citizens to whom services are delivered. Finally, to add flexibility in managing risks and changes in working environments where both efficiency and effectiveness can be achieved. The strength of this initiative is in aligning strategic planning with project management practices. This approach advocates starting with externally focused outcomes (QNPM, 2006).

QNV 2030 was launched in October 2008. It aims to transform Qatar into an advanced country through focusing on four pillars: human, social, economic, and environmental development. One of the targets of the vision is to develop and modernize public institutions by shifting to customer-oriented reforms in which the focus is on people and business strategies, to speed up decision-making and execution, and to enhance delivery, competition and market mechanisms. '*Qatar Public Sector Excellence Model'* was developed as part of the planning strategy that guides all of the different sectors' plans (QNDS, 2011). The Model consists of levers and drivers. The levers include; "*performance management, policy and planning, budget management, organizational alignment, human resources development, institutional processes, procurement, information and communication technology.*" Drivers are efficiency, effectiveness, value creation, accountability, transparency, engagement and relevance. Main goals to be achieved in this field are; to "*influencing and improving performance and measures of success, public sector's efficiency and effectiveness, value creation, transparency, accountability, relevance, and customer engagement*." It highlights the importance of the methods that they must apply in order to achieve the goals of modernization like policy and planning, budget and financial management, human resources development, organizational alignment, procurement, institutional processes, information technology and performance management. In order to build a strong foundation upon which the vision can be achieved, two programs are started during the planning phase: expanding the support of central government functions, and developing a public-sector performance management framework. Figure (7) summarizes a project approach leading to prioritized and sequenced modernization programs.

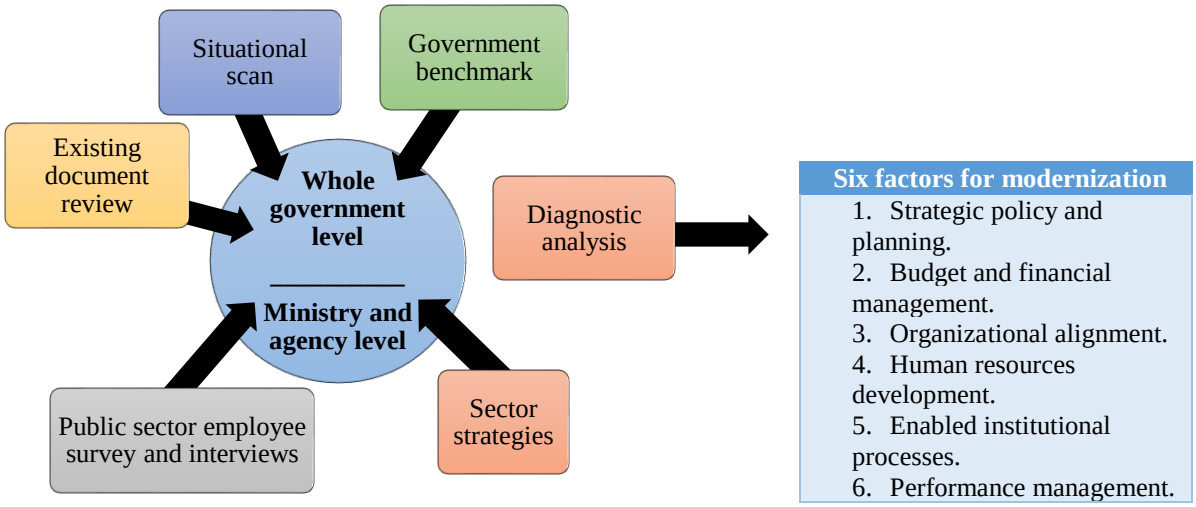

Figure -7- Project approach leading to prioritized and sequenced modernization programmes in Qatar, QNV 2030 (2008)

Since 2012, the Qatari government has been dealing with the gap between public and private sectors. This gap was created because Qatari employees shifted to the public sector due to a 60% salary rise in 2011 as well as the offer of benefits and job security. The proportion of Qatari employees working in the public sector reached (83%) in 2011 (Oxford Business Group, 2012).

There are different kinds of public sector organizations in Qatar, such as governmental ministries, semi-governmental institutions, and non-profit organizations like charities. They are funded by the Ministry of Finance and can have additional funding from other sources.

The Government of Qatar pushed through a law that only Qatari employees can be top and middle managers in public entities. Non-Qataris can be specialists or consultants in project teams, upgrading to PMs' positions when approved by TMs. There are differences between PMs in terms of national culture addressed by Rees-Caldwell & Pinnington (2013), who raised the issue of national culture and its impact on project management. They discussed the results of a survey given to 200 PMs of whom 100 were from the Arab World and 100 were from the UK. The most important result of the survey is that national culture is affecting the planning phase of the project management process. They found that PMs from UK are more concerned with the scope and time, compared to PMs from Arab countries. The authors highly recommend understanding these national variations to enhance communication and cooperation among employees of different cultural backgrounds.

Criteria	Description	Weight
Importance	- Need for change exists. - Critical area versus secondary or tertiary focus. - Role in National Development Strategy 2011-2016	30%
Speed of Impact	- Time taken for changes to take effect. - Quick fix for long term.	30%
Urgency	- Action required now versus ability to delay action. - Size of problem and need to resolve.	40%

Table -7- Assessing the impacts of programmes and projects, (QNDS, 2011)

Table (7) shows the techniques used to assess the impacts of the programmes and projects within the QNDS. Each criterion is weighted according to its importance; the highest weight is given to criterion of '*Urgency*' with 40%. This fits the concept of *'quick wins'* on which the whole strategy focuses.

The criteria for assessing the feasibility of programmes and projects are shown in table (8). More CSFs and risks are addressed here with more attention paid to the nature of projects' complexity.

Criteria	Description	Weight
Budget	- Financial support and resources required to execute initiative.	30%
Skill set needed	- Required skill set and capabilities. - Presence of skills and capabilities.	30%
Complexity	- Difficulty in executing initiative (stakeholders, legal changes, cultural shift, time for changes)	40%

Table -8- Assessing the feasibility of programmes and projects, (QNDS, 2011)

E-government systems are implemented in different countries to ensure "*the reduction of corruption, to increase transparency, to create greater convenience and to reduce the cost*" (Bhuiyan & Amagoh, 2011). In their study, they discussed the e-government system that used in the public sector in Kazakhstan to improve communication and increase outcomes. The United Nations Report on the e-government Survey 2008 recognized Kazakhstan as a leader in Central Asia.

Gottipati (2002) argued that e-government projects were funded in the GCC as budget-based projects. He insists on having long-term financial support for these projects in order to focus on the targets and the objectives behind them (Weerakkody, El-haddadeh, Al-Shafi, 2011). In their study, Weerakkody, El-haddadeh, Al-Shafi (2011) surveyed a sample of employees in one of the public-sector organizations in which the e-government system was implemented. They all agreed that government support for the system was strong and clear, but for one of the SMs it was not consistent. Funding is not an issue according to the sample,

but it takes time to order, obtain approval and secure funding resources. Other employees raised the issue of the need for organized training programs especially for non-Qatari employees. Another finding of the study was that the new e-government system does not align with the strategy of the Ministry of Information and Communication Technology (ICT). This delays delivery of electronic services compared to other countries. The researchers also referred to the UN e-government readiness report, which ranked Qatar 53rd out of 189 countries (United Nations, 2008). However, it ranked 62nd in 2010, which indicates that despite efforts to enhance public services through the e-government system with all the financial resources and the commitment of the government, there were some problems with managing the project like the delay in receiving the required funding and training.

According to Qatar's Landscape (2013), nearly half of all government organizations in Qatar are connected with the governmental network. A survey conducted to measure the usage of the governmental network by employees found that (87%) of employees, especially middle and TMs, agreed that it is very important to have a governmental online service system. According to the employees, the essential barriers preventing them from using the online service are work pressure (45%) and being blocked by the organization itself (32%).

In his study, Al-Kuwari (2007) indicated that Qatar's services improvement began in 2004 and the initiative contains three major areas; "*service quality, reporting on service integration, and reaching out directly to people who use Qatar's public services.*" The '*Q framework'* was developed to guide services improvement activities. The framework focused on five approaches inspired by vision and leadership. The approaches are "*listening to the public, planning, setting standards, performing and measuring, and changing culture*."

Finally, the most important principle that helps Qatari organizations in their journey to develop and change is building a guiding '*coalition'*. This means creating "*a committed leadership team, effective managers, steering and work groups, and having the time and resources necessary to carry out the change*" (Cunningham & Kempling, 2009).

Qatar agreed officially to implement the international standards of transparency and exchange of information after joining the Organization for Economic Co-operation and Development (OECD) global forum in 2009 (Goodman, 2015). The mission of the OECD is to *"promote policies that will improve the economic and social well-being of people around the world*" (Oecd.org, 2016). According to Goodman (2015), Qatar underwent rapid change and progress within the last 50 years, but faced difficulty in implementing such an advanced

and foreign system within the Qatari community. This community is dominated by strong cultural beliefs and traditions, which demand that people in charge of adjusting governmental systems should create solutions to solve problematic issues. The evaluation process of the healthcare system covers *"accessibility, quality, cost-effectiveness, health impact, transferability, and sustainability*."

The mid-term review regarding the implementation of the QNDS (2014), declares some challenges in implementing the QNDS (2011-2016). One of the most serious challenges was that there was no sufficient information given to the MDPS, the institution responsible for evaluating and monitoring the plan. Traditional measurements were criticised throughout the report for not giving an overall evaluation of development aspects. For example, when measuring the improvement of national well-being, the current measurement system depends on a single question about ranking the participants' status and the Gross Domestic Product (GDP) yearly reports. There is a need for a detailed and a holistic approach to measure healthcare, education, social and economic satisfaction.

There is a focus in the report on project management aspects. The challenges in 2011-2013 in this domain were the lack of stakeholders' engagement, increasingly '*overambitious*' projects, well-trained human capacity especially in project management, communication strategies, and information monitoring progress. The actions to meet these challenges to be implemented in 2014-2016 entail creating a '*high-level steering committee*' to engage stakeholders, reconsidering projects to choose only the most important and realistic ones, enhancing recruitment and capacity building especially in project management, and implementing information monitoring techniques.

One of the areas that the report focuses on is creating frameworks for '*entity-level planning*' as an essential action support for institutional development. The actions related to project and programme management include:

- Encourage sector-wide coordination and stakeholder engagement through establishing professional and realistic mechanisms.
- Apply national planning and evaluating metrics, project monitoring and reporting systems to facilitate knowledge management processes.
- Create channels for improving project performance, midcourse corrections and adjustments.

- Develop human training programmes for building capacities in project and programme management.
- Strengthen public sector with qualified and experienced experts who can support plans and deliver outputs.

3.4 Initiative of QNPM

This initiative was conducted in 2006 and PMs from all ministries and governmental institutions were trained to transfer and apply current project management methodologies to their work and to their employees. The initiative consisted of four phases: "*defining the project, planning, implementation, and closing.*" The first note here is that the proposed tool will contain four phases to meet the phases of PMBOK® & PRINCE2.

First Phase: **Defining the project**

In this phase, the PM creates a '*Project Definition Document'* or '*Business Case'* (QNPM, 2006). The document contains:

1. Problem/opportunity.	
2. Project goal.	
3. Project Objectives.	
4. Project scope.	
5. Key stakeholders.	
6. Outcomes/ Success Criteria.	
7. Assumptions/ Constraints.	
8. Risks.	
9. Estimated cost.	
10. Estimated duration.	

Table -9- Project Definition Document (QNPM, 2006)

Second Phase: **Planning**

According to the QNPM (2006), the project plan contains tasks to be performed during "*the project stipulating timeline, team members assigned to each task, planned cost of the project, human resources, facilities, equipment, materials, and communication plan.*"

1. Background.	
2. Purpose.	
3. Goal & objectives.	
4. Scope.	
5. Assumptions & constraints.	
6. Deliverables.	
7. Stakeholders.	
8. Project results / success measures.	
9. Budget summary.	
10. Human resource plan (organization chart, Role descriptions, start-finish days, total days required)	
11. Schedule summary.	
12. External dependencies.	
13. Risks.	
14. Issues.	
15. Appendices: schedule + detailed budget.	

Table -10- Project Plan Components (QNPM, 2006)

The *project definition document* appears as a table of content without an obvious relation to the PVs that are required to be achieved. This is taken into consideration in designing the proposed assessment tool. The *project plan components* in table (10) is very useful and can be used in the proposed tool with the focus of public needs as a priority.

Third Phase: **Implementation**

The QNPM (2006) mentioned that during this phase PMs should develop a strategic plan and an output plan. The strategic plan is defined as *"a public communication tool because it provides the public with straightforward information about an agency's intentions & give service users a clear idea of what they should expect*."

This also includes *"forward, introduction, operating environment, major outcome and intermediate outcomes, targets & interventions, priority capabilities, and priority interventions.*" Output plans are annual documents (approximately 20 pages) that contain; *"a general statement of the purpose, key definitions used in the output plan, parties and signatures- reflects key parties to, and agreement on, the plan, an output schedule for each*

quarter, where the outputs are specified and their performance measures and standards are clearly described."

Example 1: *Risk analysis*

Intervention	Risk	Likely Cause	Preventative Action	Trigger	Contingent Action
unique ID and name of description	*High-level description of risk*	*Cause of risk*	*Preventative action to stop or limit onset of risk*	*This informs you that the risk has now become an issue*	*To manage or minimize impact of issue*

Table -11- Risk Analysis (QNPM, 2006)

Example 2: Intervention summary

Target	**Intervention**	**Cost**	**Impact & Rationale**	**Risks**	**Start Date**	**End Date**	**Resources**	**Stakeholder**
The target approved by SMT	*A brief description of the intervention (financial years the intervention will run)*	*Total cost in the coming financial year. Total cost in the future years*	*The expected impact of the intervention against the target in the coming financial year The cumulative impact in future years Main reasons why director thinks the intervention will have the expected impact*	*Description of the top 3 risks the department will manage Include the impact and probably of each risk*			*Department leads for the intervention Other key resources the intervention requires to be successful*	*The major internal & external stakeholders the department will work with*

Table -12- Intervention Summary (QNPM, 2006)

The components of tables (11) and (12) are useful and related to the required elemts of the proposed tool. These tables are mentioned as examples in the initiative, but the items they contain is taken in the proposed success criteria.

Fourth Phase: **Closing**

The closing phase contains "*final acceptance document, lessons learned document, and project archives*." The final acceptance document involves listing all deliverables and approval dates, and statements to indicate achievement of goals. Lessons learned documents present the achievement of a project goal, realization of project outcomes & methods, things

that went well, and things that did not go well, advice to be given to a team working on a similar project, and directions to where the project archive is located.

Finally, the archive checklist contains the following; "*lessons learned document, acceptance document, final deliverables (strategic plan, output plan, SMT papers, presentations, …etc.), project definition document, project plan, schedule, resource plan, budget, communication plan, status reports, and meeting minutes (Wysocki & McGary, 2003).*" The elements of the closing phase are as private sector tools since they do not include any references of public needs or values. The proposed success criteria and assessment tool is to focus on relating these elements to the process of creating PVs.

Since this initiative is the latest attempt to apply PMPs in public sector in Qatar, the proposed assessment tool by the researcher is designed to replace the QNPM initiative. The following table contains a comparison between QNPM and the elements to be considered in the new proposed assessment tool.

Tools / Elements	QNPM (2006)	Considered Elements in the Proposed Assessment Tool
Project Life Cycle	There are 4 phases; *Defining the project, Planning, Implementation, and Closing.*	Using 4 phases aligning PMBOK® & PRINCE2 techniques; *Initiating & Planning, Executing/Implementation, Monitoring & Controlling, and Closing.*
Planning Phase	Uses project management tables without indication of values to be achieved.	Project management tables are combined with factors to determine the success of the project plan.
Executing Phase	It links the project plan to the public's expectations. There are useful forms to use all through the phase.	Project management forms to be used during the phase. Public needs are to guide the whole process.
Monitoring Phase	It is not referred to in particular through the initiative.	To be highlighted in the proposed tool because of its effectiveness as mentioned in chapter One.
Closing Phase	Looks like private sector project management tools without references to public needs or values.	Using referred to project management tools and combined them with factors to indicate project success.

Table - 13 - Comparison between QNPM (2006) & New Proposed Assessment Tool

3.6 Summary

This chapter discusses the most relevant elements in both QNV2030 and QNDS 2011-2016 in relation to the area of the current research. It analyses QNPM (2006) as the latest attempt to implement project management in the public sector in Qatar. It also summarizes the addition of the proposed tool to the previous attempts to strengthen its' application and effectiveness.

Chapter 4: **Theoretical Framework**

4.1 Introduction

This chapter discusses theories related to the fields of project management and public administration. Common factors are discussed in depth and gaps are highlighted where the current research can contribute to the previously mentioned fields. Early attempts at theoretical work on project management are investigated to find out related theories that can help with the current research topic. The lack of project management theories is in stark contrast to the richness of the public administration field in which theories lead researchers' empirical work, but with a lack of the practical models more commonly found in project management. Tables (3) and (5) summarises the previous literature in relation to the CSFs and PMS and assessment tools most used and referred to in the study.

The theoretical framework is presented towards the end of the chapter, in which both fields are combined. This framework provides the foundation of the proposed tool, which is discussed in chapter 8.

4.2 Project Management Models & Theories

According to Ghoshal (2005), management theories neglect "*human interaction, based on deductive reasoning, biased assumptions, and partial analysis.*" He also criticized management models for having no relation to what is actually happening in organizations, and should not be treated as a "*sound and solid foundation on which management action should be based*" (Blomquist et al., 2010). Researchers also believe that the qualitative approach is the best way to find out what is really going on and to test the project theory (Cimil, 2006; Blomquist et al., 2010). Blomquist et al. (2010) presented the '*project-as-practice approach*' in which the focus was first on '*individual actions*' and then generating related models and concepts, rather than following the traditional method of starting with both models and concepts.

Researchers used the concept '*project theory*' in the 1990s to refer to two different concepts, sometimes targeting *'practical knowledge'* and otherwise targeting *'normative tradition'* (Packendorff, 1995; Söderlund 2004). Project management was accused at its outset of being a profession rather than a science that can generate theories. Fugate and Knapp (1998) refered to the importance of '*relying on the theoretical*' adding that this "*is the single most important factor distinguishing a profession from a craft*" (Koskela and Howell, 2002).

Kharbanda and Pinto (1996) went further to relate the dilemma of project failure to the *"poverty of current theory that explains the other problems of project management*". Researchers even indicated that there is *"no explicit theory of project management*" (Shenhar, 1998; Turner, 1999; Koskela and Howell, 2002). Söderlund (2004) concluded that researchers cannot rely on *'empirical insights*' only, but they should consider *'theoretical perspective*.'

Most researchers agreed that *Project Complexity* is among the most noticeable and rare theories in the project management field of research. Baccarini (1996) defined project complexity *"as consisting of many varied interrelated parts and can be operationalized in terms of differentiation and interdependency*." He referred to the importance of this complexity in the process of project management. Its' importance can be seen through the following:

1. *"Determination of planning, coordination, and control requirements*" (Bubshait and Selen; Wozniak, 1993).
2. Working as *"an important criterion in the selection of an appropriate project organizational form*" (Bennett, 1991; Morris and Hough, 1987).
3. Determining *'projects inputs*' (Gidado, 1993).
4. Effects on *"objectives of time, cost, and quality. That the higher the project complexity the greater the time and cost*" (CIOB, 1991; Rowlinson, 1988).

When going back to the origin of project management, most studies agreed that it started with models and tools like PERT (Shenhar and Dvir, 1996). In the 1950s, project management research started with the developing *of "activity network techniques like PERT and CPM"* (Lockyer, 1969; Pich, Loch and Meyer, 2002). Pritsker's (1966) *'Graphical Evaluation and Review Technique*' (GERT), Q-GERT (Taylor and Moore, 1980), and '*Structure Matrix Framework*' of Steward (1981) were some of the earliest attempts to deal with project schedule and sequence of activities (Pich, Loch and Meyer, 2002). Among the most relevant frameworks is the European Foundation for Quality Management (EFQM) Excellence Model. According to Suarez et al. (2014), this model "*allows organizations to prepare a basic structure for the design, implementation, and improvement of a comprehensive management system, evaluate their position on the path of excellence, prepare a common framework for communication, and integrate the strategic planning and interest*

group orientation into their management" (Calvo-Mora, Navarro-Garcia, and Perianez-Cristobal, 2015)

The problem with project management guides and handbooks that they present general examples of activities within the main processes (Cleland and King, 1983; Kerzner, 1994; Shenhar and Dvir, 1996). Projects are treated here as practices and processes that are similar among all types of projects. A similar approach is adopted by PMI (1987), which is to *"treat all projects as similar, and identify the universal set of functions, tools, and techniques needed for managing a project*" (Shenhar and Dvir, 1996).

Previous studies have also tried to provide theoretical backgrounds to distinguish between project types. A study was conducted by Blake (1978) in which he suggested that there are two types of projects in terms of level of change: *"minor change (alpha) projects, and major (beta) projects*". Wheelwright and Clark (1992) referred to related types of projects *"to the degree of change achieved by their outcome within the company's product portfolio"*. Despite previous studies and initiatives, they remain '*typologies*' rather than theories with standards that can be considered *"accepted theoretical project management framework which has been subjected to quantitative modelling and empirical testing*" (Shenhar and Dvir, 1996). There was another attempt by Turner and Cochran (1993) to distinguish between projects according to their goals and objectives, in which they specified two parameters: *"how well defined the goals are, and how well-defined are the methods of achieving those goals*" (Williams, 1999).

Uncertainty is different from ambiguity according to Schrader et al. (1993). Ambiguity is defined as *"absence of knowledge about functional variables*" (Pich, Loch and Meyer, 2002). Shenhar and Dvir (1996) developed a conceptual model, *'a first-order construct','* to distinguish between different types of projects in terms of their '*technological uncertainty*'. They concluded their study by providing *"two levels of theory; a grand theory that generalizes to all technical projects, and a middle-range theory that is restricted to the individual types*."

This uncertainty is covered in project management practices in terms of risk management. This approach requires identifying *'possible and uncertain events'* in order to address them adequately when they appear. Schwartz (1991) indicated, *"scenario-planning techniques aim to identify risks and their drivers as broadly as possible using early warning indicators and response scenarios*" (Pich, Loch and Meyer, 2002). This amount of uncertainty

is expected in the field of project management. Thomas and Mengel (2008) in their discussion of the training level based on PMBOK®, called for improvement to the level of training given to PMs in order to prepare them for dealing with *'unexpected difficulties'* or *'unique situations'*. They explained however that even with well-trained PMs, problems can occur when they try to deal with change or when they want to implement creative methods.

Other researchers have tried to link the project management field to other domains like cognitive science, operation management, or organizational theories. Pich, Loch and Meyer (2002) compared planning techniques from Artificial Intelligence (AI) and the planning phase from project management. AI distinguishes between '*conditional planning*' and '*execution monitoring*'. Conditional planning implicates that *"actions may have unexpected effects but these can be enumerated and described as part of the action plan*." Execution Monitoring outlines *"where unexpected effects are too numerous to elaborate and therefore oblige the artificial agent to respond and re-plan as the plan is executed*" (Warren 1976; Olawsky and Gini 1990; Ambros-Ingerson and Steel 1988; Pich, Loch and Meyer, 2002).

Strategic management research has also tried to discuss other related theories like '*agency theory'*. This theory claims that "*in order to enhance firm performance, both the manager's and the firm's objectives should be aligned; top managers are self-serving and that mechanisms such as monitoring or reward structures must be developed to align top managers' objectives with shareholders' objectives*" (Jensen & Meckling, 1976; Fama & Jensen, 1983). Another interesting theory, from the same field, is the upper echelons theory. It indicates that "*firms are a reflection of their key decision-makers (or top managers) and thus focuses on how different characteristics of the top management team, such as its size and the different personal traits of its member, influence the performance of the firm*" (Hambrick & Mason, 1984; Hambrick, 2007; Hermano & Martin-Cruz, 2016). This theory supports the impact of "*the personal traits of top managers such as age, education, experience, and race*" (Hambrick, 2007; Hermano & Martin-Cruz, 2016).

Other theories were used also in order to address theory insufficiency in the project management field. Turner (1993) highlighted the importance of *'scope management'* as the main reason for the existence of project management. This scope is shown through the WBS, and it is important in terms of specifying the amount of work needed to deliver the approved *'business purpose'*. Regarding the operation management field, *'Transformation Theory*'

indicates that "*any production process can be viewed as an input-output system. In other words, there is a set of resources, which called inputs. A transformation process operates on this set and releases it in a modified form, which called outputs. The management of the transformation process is what we mean by production management*" (Starr, 1966; Koskela and Howell, 2002). Another important theory is the famous *'Value Chain theory'* by Porter (1985) which is defined as *"a set of operations, accomplished sequentially, that an individual firm used to physically transform its raw material inputs into finished products"* (Freeman and Liedtka, 1997).

Aaltonen and Kujala (2016) used Freeman's definition of '*Project Stakeholders*' as "*organizations or individuals who can somehow affect the achievement of the project's objectives or are affected by the achievement of the project's objectives"* (PMI, 2013; Aaltonen and Kujala, 2016). They provide a stakeholder landscape framework, in which they combine elements of "*complexity, uncertainty, dynamism and institutional context*."

There is also the '*complexity theory*', which is associated mostly with risk management (Qazi et al., 2016). Vidal and Marle (2008) defined project complexity as "*the property of a project which makes it difficult to understand, foresee and keep under control its overall behaviour, even when given reasonably complete information about the project system*" (Qazi et al., 2016). Qazi et al. (2016) proposed the '*ProCRiM*' approach, which relies on complexity, and risk network and refers to "*a critical stage where there is a need for bringing a paradigm shift, as the existing literature is rife with conventional tools and techniques of identifying risk and complexity categories without focusing on the network of interacting factors*."

Padalkar and Gopinath (2016) called for greater focus to be put on theory building in project management field. Recent researchers have tried to implement new approaches in order to understand the issues arising when applying project management in the public sector. Van der Hoorn (2015), used *'lived experience*', which indicates focusing on what really happens in projects. They studied the social framework where PMs interact in *'real life situations*', and processes of thinking and gain experience (Cicmil et al. 2006; Van der Hoorn 2015). There have been calls to import models and frameworks from other disciplines that help to highlight behavioural perspectives (Doloi, 2013; Killen et al., 2013; Van der Hoorn 2015). In their study, Koskela and Howell (2002) concluded that *"project management as a discipline is in crisis, and that a paradigm change, long overdue, has to be realized*." They

recommended the use of theories derived from the operation management discipline and to be subjected to advanced practice in order to reach a *'new understanding'* and *'possible refinement*' of project management.

In their study '*Managing inter-organizational networks for value creation in the front-end of project*', Matinheikki et al. (2016) indicated that traditional and known planning methods of project management are not recommended if the target is to manage value creation. They conclude that there are four key activities to facilitate the management of value creation: "*The assignment of network leader, establishment of joint coordination body among network organizations, arrangement of formal and informal meetings among network organizations, and engagement of internal and external actors in decision-making related to the network*." They focus on the importance of '*non-project activities*' like building trust and relationships, interests also shared by public administration.

The previous discussion highlighted the importance of the need to include 'theoretical perspective' besides 'empirical insights' as recommended by Söderlund (2004) and Padalkar and Gopinath's (2016) call for greater focus on theory building in the project management field. It is helpful to combine PV theory, possessing interesting and contradictory backgrounds, with a practical approach like project management. Project management can make up for the lack of theory application that is discussed later, and such strong theoretical backgrounds can compensate for the current shortage in project management discussed earlier.

4.3 Public Management Theories & PV Theory

Elinor Ostrom (1986) identified the institution as "*a set of rules of various kinds, within which sets of actors with differing resources, values, and ways of using information, following differing contextual and prescriptive 'rules of the game', interact in a set of action arenas: interaction theory plus informational logic plus game-theory*" (Shubik, 1986; Dunsire, 1995). According to Dunsire (1995), in the 1970s '*public administration*' was dominant, as was '*public policy*' in the 1980s and '*governance*' in the 1990s.

The importance of value generation, or creation, was one of the first demands and needs of the business field. It appeared in the 1930s and focused on the importance of generating values from the customers' points of view (Koskela and Howell, 2002). Briner, Hastings, and Geddes (1996) highlighted the importance of demonstrating shared values and

beliefs among project members and team members (Thomas and Mengel, 2008). Christenson and Walker (2004) found out as a result of their study that having *"a project vision may be the key to successful project outcomes"*. Thomas and Mengel (2008) quoted Kendra and Taplin (2004) who explained the terms of the organization to be successful;

> *"For organizations to be successful with the adoption of project management, they need to establish a shared set of values and beliefs (a project management culture) that aligns with the social and technical aspects of project management to achieve the organization's business objectives*."

The findings of Shenhar and Dvir's (1996) early study shows relationships between project management and PV theory. They found that if the level of uncertainty increases, the amount of information and the need to transfer knowledge also increase. In this particular case, PMs excelled when they employed their experience to improve social interaction among project staff. Such PMs were considered as *'technical leaders'* and have a very strong professional reputation in the field. This is connected to what is known in PV theory as the importance of *'trust', 'communication*', and '*effectiveness*' in predicting risks and dealing with them.

A recent study conducted by Martens and Carvalho (2016) tried to address the '*key factors of sustainability in project management context'*. They discussed the need raised by several researchers to provide project management tools that can '*assess sustainability*' within organizations. Sustainability is one of the most important values that the public expects from public projects. Sustainability is "*a process that creates a vision of community that respects the prudent use of the natural resources to ensure that the present generations achieve a high degree of economic security and can attain democracy and popular participation in the control of their communities while maintaining the integrity of the ecological systems and of life*" (Galdwin et al., 1995; Martens and Carvalho, 2016). Moreover, social sustainability occurs when "*the organizations provide equal opportunities, encourage diversity, promote connectivity within and outside the community, ensure the quality of life, and provide democratic processes and responsible governance structures"* (Elkington, 1998; Martens and Carvalho, 2016).

Rohr presented the '*Regime Values*' concept in 1976 which was an early attempt to study values from a political perspective (Overeem, 2013). Regime Values are "*an expression used frequently in public administration literature to donate the fundamental principles of a*

polity which, ordinarily, should guide administrative behaviour" (Rohr, 1989; Overeem, 2013). Rohr referred to the United States regime values as the 'constitutional values' so this depends on the country's regime being studied. Rohr defined value in 1976 as "*a pattern of attitudes or behaviour that recurs with some frequency. An attitude, a passion, or a principle must have a history-either personal or societal before it becomes a 'value'.*

Hood and Jackson (1991) provide another classification of administrative values; '*Sigma-type, Theta-type, and Lambada-type*' (Hood, 1991). Sigma-type values consider success as "*matching of resources to tasks for given goal*" by focusing on not wasting money or time. Theta-type values, on the other hand, relate to '*honesty and fairness*' and consider success as the "*achievement of fairness, mutuality, and the proper discharge of duties*". The Lambada-type considers "achievement of reliability, adaptivity, robustness" as a measure of success. According to Hood (1991), it is hard to achieve these three types of values in one administrative system.

Söderlund (2004) raised the question *'What is the function of, or value added by, the project management unit?*' to build theories of project management. Certain questions raised in this category can be better answered when PV and project management are combined, such as *"In what way does project management promote learning, participation, and commitment, and how we determine the value of their work? Does certain behavior of the PMs correlate with the level of value added*?". Laursen and Svejvig (2016) discussed *'project value creation*' in relation to concepts and their explanations. Concepts that relate to this process are *"strategy, project, output, outcome/change, benefit, value, value creation*." According to Lepak et al. (2007), *"value creation depends on the relative amount of value that is subjectively realized by a target user (or buyer) who is the focus of value creation – whether an individual, organization, or society"* (Laursen and Svejvig, 2016).

From the public field, '*Ethical Leadership'* theory appears highly relevant. Brown, Trevifio and Harrison (2005) identified Ethical Leadership as *"the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct through two-way communication, reinforcement and decision making"* (Hassan, Wright and Yukl, 2014). This theory can be thought of as giving guidelines as to what is needed in a public PM and provides a deeper explanation of Moore's general perspective of *'public servants*'. The ethical leader (or a public PM) is a *'moral person'* who embraces values like *"honesty, integrity, and altruism, and they conduct*

themselves in an ethical manner even in the midst of adversity, risks, or pressure." Leaders, according to this theory, are *"moral managers"* who *"promote ethical behaviour among their followers by clearly communicating ethical standards and expectations, providing ethical guidance, and holding followers accountable for ethical and unethical conduct*" (Trevino, Brown and Hartman, 2003; Hassan, Wright and Yukl, 2014). It was found in the study conducted by Hassan, Wright and Yukl (2014), that ethical leaders help to increase other employees' *'willingness to report ethical problems and reduce absenteeism*.'

Wright (2015) investigated dahl's article in 1947 that concerned three major problems in public administration, namely '*values, behaviour, and culture*', in depth. Wright highlights the importance of '*values*' at an '*individual*' level to influence employees' behaviour, and at '*group*' level in improving decision-making policies. The calls of researchers in public administration have been similar to those from PMs' research in the public sector. The interests of academics and practitioners need to expand to understand the *"importance of studying values by noting that a manager's preference for outcome or process accountability mechanisms is not only influenced by political ideology but also moderated by whether the performance being evaluated focuses on equity or efficiency outcomes*" (Tetlock et al., 2013; Wright, 2015).

	Traditional Public Management	**New Public Management (NPM)**	**Public Value Management (PVM)**
Mode of Operation	Planning and policy	Management and contracts	Knowledge fields
Theoretical Focus	Policy studies	Management and economics	Governance philosophy
Model of Governance	Procedural	Corporate	Network
Performance Objective	Managing inputs	Managing inputs and outputs	Multiple objectives service outputs; satisfaction; outcomes; trust and legitimacy.
Goal of Managers	Respond to political direction	Meet agreed performance targets	Respond to citizen preferences, renew mandate and trust through quality services.
Accountability	Upwards through departments to politicians to parliament	Upwards through performance contracts; sometimes outward to customers through market mechanism	Multiple: citizens as overseers of government; customers as users of services; taxpayers
Role of Community	Little community involvement	Increased consultation	Community enablement and involvement.

Table -14- Public management approaches (Crawford & Helm, 2009)

There is no common definition of PVs (Cordella and Bonina, 2012; Karin and Janssen, 2014). Some researchers defined PV as '*the value created by government through services, law regulation and other actions* (Kelly et al., 2002; O'Flynn, 2007). PVs are defined by Bozeman (2007) as *"providing normative consensus about the rights, benefits, and prerogatives to which citizens should (and should not) be entitled; the obligations of citizens to society, the state, and one another; and the principles on which government policies should be based*" (Bozeman and Moulton, 2011). Moulton (2009) explained *"this process as the realization of public*" (Bozeman and Moulton, 2011). Page et al. (2015) defined '*Public Value Creation*' through cross-sector collaboration as "*the extent to which a cross-sector collaboration achieves its overarching and subsidiary purposes, meets applicable mandates, and achieves lasting and widespread benefits at reasonable cost that no single organization could have achieved alone in a democratically accountable way*."

There are limitations in almost all studies in analytical models that seek to identify reasons for success or failure (Bozeman & Moulton, 2011). Bozeman (2007) declared, *"public value failure occurs when neither the market nor the public sector provides goods and services required to achieve public values.*" Mendel and Brudney (2014) referred to PV as "*the holistic, full, positive, long-term consequence of doing well for a larger community. These consequences may be expected or unintended, known or unknown, and hard to measure. Public value can occur as a consequence of the creation of a third space that allows people and organizations to facilitate doing well in new ways*."

In his theory of PV, Moore (1995) described '*managers*' as *"people who have authority over public resources and are held accountable for their use; elected politicians; the officials they appoint; and the top public servants who work with them"* (Colebatch, 2010). This theory is designed to fit tax-paying countries, where citizens can be seen as shareholders and therefore have an interest in better services, enhanced trust and social capital. Citizens engage in the democratic process by taking part in consultations and surveys (Horner and Hazel, 2005; O'Flynn, 2007).

Table (14) compares three management systems: traditional public management, NPM and PVM. PVM encourages networked governance and suggests a different way of working for public sector managers and administrators. The PVM paradigm presents the achievement of public value as its core objective. Networks of deliberation and delivery are central features of this governance approach. There is no specific place for politics in PVM

unlike in traditional Public Management and NPM. It is highly important for the PVM to create public value such as social or economic values. It is also very important to involve all stakeholders in the arrangements, and to create effective channels of communication to accomplish many social and economic outcomes. This meets the PMP in the PMBOK® Guide (2013) regarding the necessity of gaining the approval of all stakeholders both before planning the project and in the initial agreement phase. PVM uses an open-minded, relationship approach to the procurement of services, which is driven by a commitment to a public service ethos (Stoker, 2006). It aims to achieve efficiency by checking on a continuous basis that activities fit their purposes. Accountability is achieved by negotiating, goal setting and oversight, while equity is gained by developing individual capacity so that rights and responsibilities are realized.

The public demand action and consequences if a government does not fulfil its promises. NPM reform stemmed from the failure of UK policy in the 1980s and 1990s. The objective of NPM is to deal with key implementation failures by applying private sector economics and managerial techniques to the public sector to improve efficiency and to target results-driven action (Barrett, 2004; Hood, 2007; O'Donnell et al., 2011; Young and Grant, 2015). Whole-of-Government (WG) was created to rebalance the problems with the NPM reform. WG is a reform characterised by collaboration, promoting traits that embrace common communication protocols, trust and commitment between partners, common standards in reporting and practice methodologies and increased cross-organizational knowledge sharing (Vaaland, 2004; Dietrich and Eskerod, 2010; Young and Grant, 2015).

PVM "*bases its practice in the systems of dialogue and exchange that characterize network governance. Network governance is a particular framing of collective decision-making that is characterized by a trend for a wider range of participants to be seen as legitimate members of the decision-making process in the context of considerable uncertainty and complexity*" (Stoker, 2006; Crawford and Helm, 2009). PVM adds to the NPM reform the value of participation and meeting the objectives of democracy with a focus on administration and policies. PVM's features are "*accountability and transparency, control and compliance, risk management, consistency in delivery, ensuring value for money, and stakeholder engagement."*

According to Witesman and Walters (2015), as it is difficult to set PVs, *"research suggests that individuals draw from these values to create hierarchies of personal values that*

predict their policy preferences" (Wright, 2015). Jorgensen and Bozeman (2007) presented and discussed PVs, indicating that some values are not considered to be as important as others. They considered PVs to be '*obligations*' that are set up by political authority. They recommend dividing values into two sections: '*Prime Public Values*' and '*Instrumental Public Values*'. The former is more related to the theoretical and philosophical aspect, and does not provide for any empirical testing. The latter are more related to testable values that are subject to empirical testing. The 'public sphere, which is mentioned in Jorgensen and Bozeman's study, is *"any place, either physical or virtual functioning as a setting for expansive communication among citizens about the meaning, development, conservation, or revision of public values*" (McKee, 2004; Bozeman and Johnson, 2014).

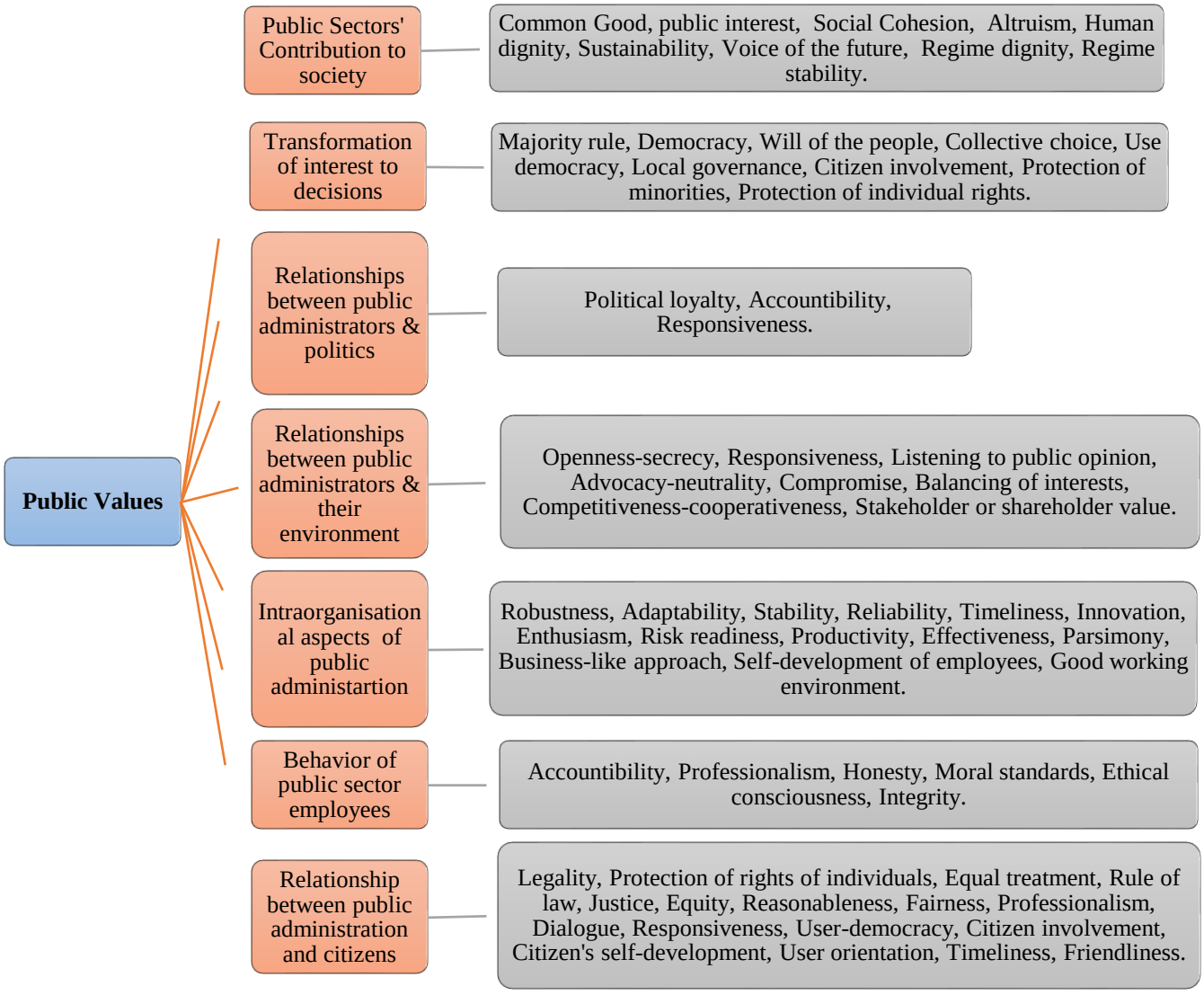

Figure -8- Public Values (Jorgensen and Bozeman, 2007)

According to Coats and Passmore (2008), PV is generated from the claims that citizens have the rights to be serviced. It also encourages managers in the public sector to engage with service users and the wider public. PV aims to improve the quality of public services, raise accountability, and increase trust in public sector organizations. There are some external factors, which are important when implementing PV in the public sector. These factors are described as "*the established purposes of the organization, accountability, democracy, and effectiveness, politics force or pressure, culture (understanding), professionalism and trust (team/ employees), targets (objectives), voice and democracy (politics), and choice, contestability and quasi-markets*". Coats and Passmore (2008) proposed methods for engaging the public and promoting greater levels of participation in public life. The first method was the '*formal mechanism'*, which can be accomplished by conducting formal consultation and public hearings. Another powerful method is using '*information and communication'* in the form of leaflets, newsletters, advertising, websites, and the media in general. Other methods include "*effective customer service and face-to-face interaction, market research (surveys, focus), deliberative methods (citizens' panel, juries or inquiries), and developed responsibility (participatory budgeting).*"

Witesman and Walters (2014) suggested a hierarchy of values, which are derived from an earlier questionnaire that they conducted in 2013, and indicated that such a hierarchy is very useful to provide an insight into decision making especially if there is a conflict between two or more values. These values are ordered as follows: "*efficiency, innovation, following rules, national security, objectivity, self-reliance, collaboration, process, citizen involvement, government innovation, transparency, government impact, altruism, sustainability, public interests, political neutrality, independence customs, resiliency, social justice, influence, protection of minorities, regime loyalty, and government leadership*".

There have been an increasing number of calls to practice PV and apply research to develop and evaluate new techniques, to examine successful conditions, and to set guidelines for their application (Helden and Northcott, 2010; Gnan, Hinna, and Monteduro, 2014).

4.4 Public Value in Use

When public projects fail to achieve their targets, national growth is endangered (Kwak and Smith, 2009, Chih and Zwikael, 2015). The term '*public*' is not completely clear in terms of which public sector organizations it refers to because of the many emerging institutions and agencies that carry out similar functions to the public sector. The concept of

'*public sector*' is much broader than '*core government*'. There are four main types of public sector in general; international, national, regional, and local organizations. Each of the previous four levels consist of three types of organizations; *'core government, agencies, and public enterprises'*. Core government *"consists of a governing body with a defined territorial authority and includes all departments, ministries, or branches of all governments that are integral parts of the structure, and are accountable to and report directly to the central authority"* (Dube and Danescu, 2011).

Agencies are public organizations, which function as core government in delivering public programs, goods, or services, but exist as separate organizations. Public services according to Flynn (2007) can cover a range of issues from education to environment. A country must provide public goods to cover any shortfall in the private sector. Public services, in the UK, are funded by taxation and are free for all citizens. However, if the services are particularly extensive then fees may be applied. Agencies also operate with a degree of operational independence. A body of directors or a commission is responsible for decision-making and reports to government. Public enterprises are similar to agencies in their functions, but they act completely independent of government and can seek other financial resources in addition to state funds (Dube and Danescu, 2011).

Osborne and Gaebler (1992) introduced the reasons behind measuring performance: to distinguish success from failure, to reward success, to learn from success, to correct failures, and to win public support. Rustin (2004) mentioned the three reasons behind the development of performance measurement in the UK: to ensure that common standards of desired performance and output are met, and to "*define and measure the relative or comparative performance of providers of services, and to improve quality and performance*" (Blaug, Horner, and Lekhi, 2006).

Moore (1995) developed the PV concept, which was established to '*span the gap*' between bureaucracy and democracy. The choice of any measurement system is determined by the need for public accountability. When applying the PV, challenges include the lack of existing measures that are designed based on the PV, the difficulty to transfer abstract concepts of PV into a process of operation, and the limitation of experts' authority to design and implement a system within the power of political authorities (Hills and Sullivan, 2006).

The process of creating PV relies on public managers according to Moore (1995). They are required to specify the purposes of creating PV and then working to gain support

and legitimacy from the relevant authority before they can begin the process of allocating suitable resources for their desired goal (Moore 1995; Symes, 1999; Alford and O'Flynn 2009; Benington and Moore 2011; Hartley, 2014). Figure (9) presents Moore's *Strategic Triangle:*

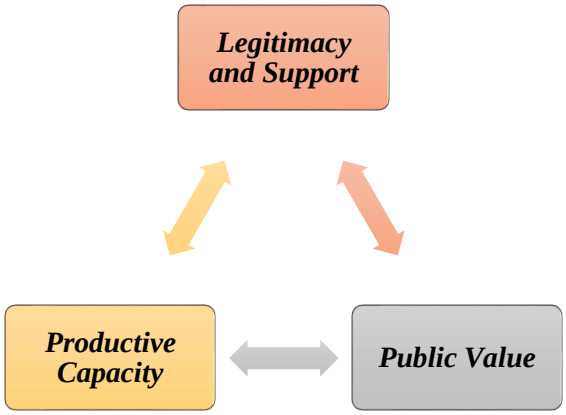

Figure -9- The Strategic Triangle, (Moore, 2013).

Researchers have tried to use PV in practice to deliver an accurate performance measurement for the public sector. Among such attempts have been '*Best Value Performance Indicators, Balanced Scorecard, and Quality of life and wellbeing*'. Moore (2003) recommended the use of the balanced scorecard for non-profit institutions for many reasons. First, this tool allows public managers to rely on non-financial measures as an acceptable way of measuring organizational performance, which helps these institutions to focus on their primary mission, namely achieving social results. Second, it allows non-profit managers to measure both intermediate processes and eventual results through non-financial measures. Third, it measures the reliability of managers in those organizations in executing the strategy agreed upon to create ultimate value. This gives them time in the event that the results are not to their expectations, to change rather than wait for the whole plan to be implemented and concluded before gaining feedback. Fourth, it provides relief to managers in non-profit organizations since it recommends the use of multiple measures that are not easily compared or combined, adhering to the mission of these organizations by delivering a simple set of statistics to reveal their ultimate value. He introduced the '*Public Value Scorecard*' in which he proposed the PV strategy that can be captured by the '*Strategic Triangle*'. This triangle consists of three points; "*the value circle, the legitimacy and support circle, and the operational capacity*."

The role of TMs was highlighted and studied by several researchers. In a recent study conducted by Hermano and Martin-Cruz (2016), it was found that the operational routines and portfolio procedures that TMs provide, encourage PMs to do their jobs better, to overcome uncertainty and challenges, and to achieve the organization's long-term goals.

Public sector organizations face difficulty in using the balanced scorecard because of the lack of time invested to customise it to their needs (Jarrar and Schiuma, 2007; Schalm, 2008; Fryer et al., 2009). As a result, it was recommended to use the balanced scorecard as an information system rather than a strategic performance management tool (Chang, 2006; Fryer, Antony, and Ogden, 2009).

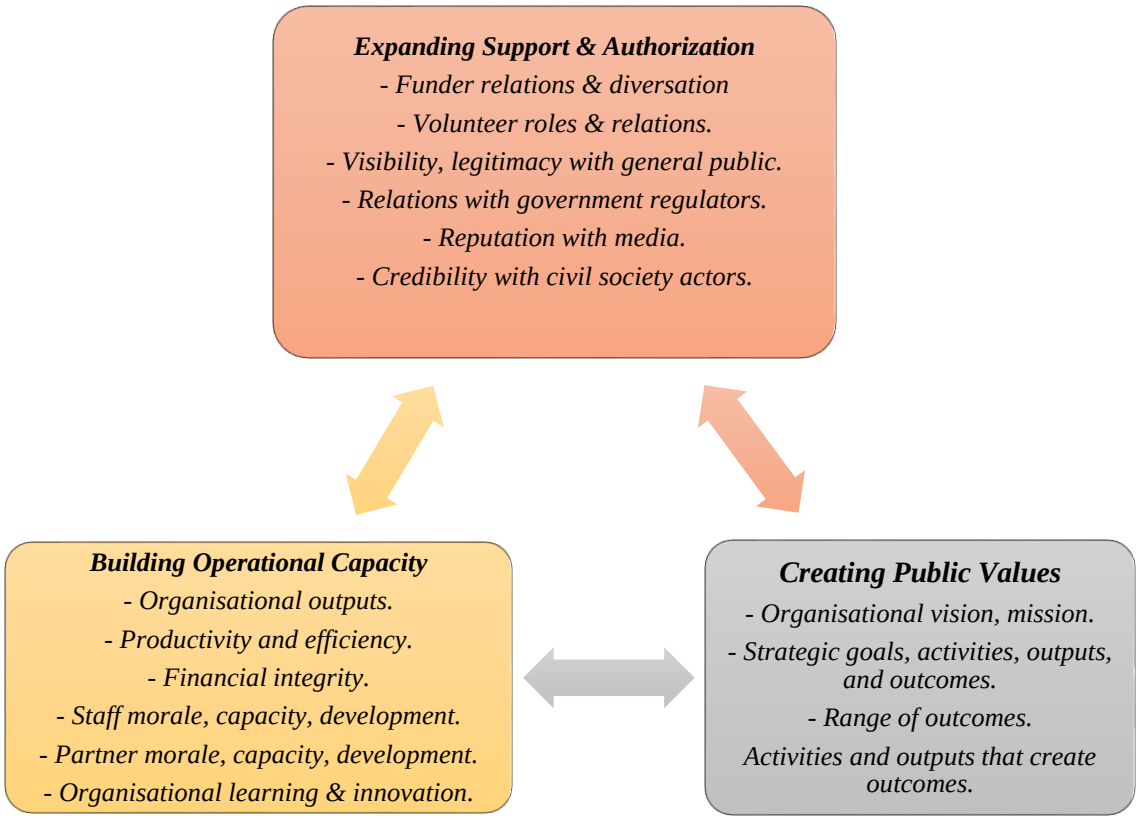

Figure -10- Public Value Framework for Accountability and Performance Management, Moore, 2003

Talbot (2008) adapted the '*Competing Values Framework'* (CVF) approach of Osborne and Gaebler (1992) and produced the '*Competing Public Values'*, which relies on a high level of PV – figure (11).

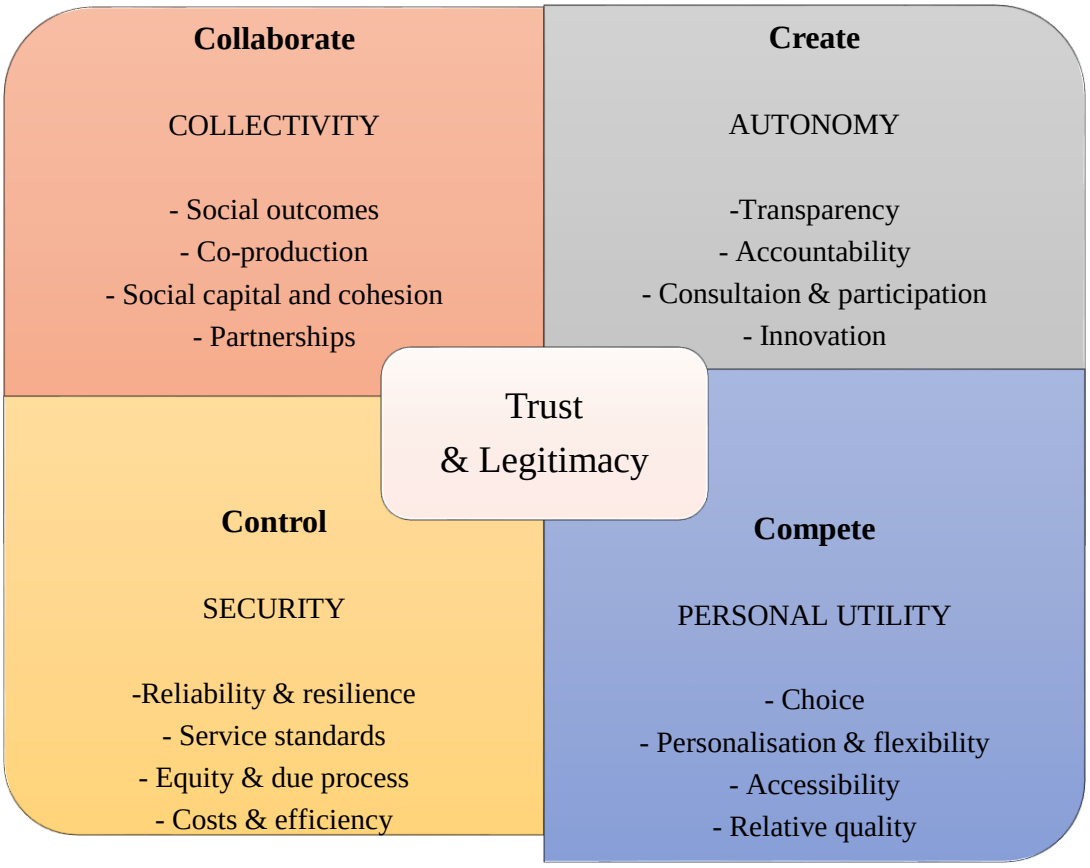

Figure -11- Competing Public Values, Talbot, 2008.

Cuganesan, Jacobs and Lacey (2014) tried to answer the question '*Does performance measurement drive public value in networks?*' They found little evidence in the Australian public sector of performance measurement that acknowledged the existence of networks as an essential element in creating PV. They addressed the issue that only a few organizations and agencies are using measures suitable for them as public service providers. One of the main results of the study is that the existing mechanisms of public sector governance and accountability do not support developing and maintaining the social capital, which is a necessity when delivering PV across networks (Gnan, Hinna, and Monteduro, 2014).

Mendel and Brudney (2014) proposed a criterion to indicate public values creation in terms of '*PV, public good, and doing well*'. They concluded that a measurement of a created PV should take into account the longer time effects, which last beyond the current goals and values. Among the most important results, the researchers agreed that when the PV is created through delivering program outcomes and enhancing the quality of services provided create more significant result when compared to the amount of service beneficial as a benchmark.

Marvel (2015) conducted a study in which a sample public audience was selected to test the effect of implicit and explicit perceptions of the performance of the public sector. The researcher used promotional advertising of a specific public program and ran a survey afterwards to measure the effect on the audience's attitudes. He found that there was a short-term effect on their appreciation of the service, but it did not last. Public sector managers in Australia and other taxpaying countries put emphasis on the importance of having a good public sector, which is essential to providing accountability to the stakeholders, especially taxpayers. It also helps in encouraging the improvement of performance while meeting control and compliance requirements (Crawford and Helm, 2009).

Another study investigated the performance measurement of local public service networks in England (Martin and Downe, 2014). They used the analysis of Comprehensive Area Assessments (CAAs) as a tool of assessment, which helped to reduce costs and to engage the public. The study's findings revealed a need for more research about the available performance measurement tools to be adapted to assess the performance of post-bureaucratic networked organizations (Gnan, Hinna, and Monteduro, 2014). Karkin and Janssen (2014) introduced criteria to measure PV among e-governmental websites that offer public services to local consumers in Turkey. They found that websites do not consider PVs while designing. Their suggestion was to shift from user-oriented design to PV-oriented design.

After a thoughtful discussion of recent attempts to apply PV, Gnan, Hinna, and Monteduro, (2014) in their book *'Studies in Public & Non-Profit Governance*' called for the need for more research to be undertaken about the available performance measurement tools to be adapted to assess the performance of post-bureaucratic networked organizations. Previous attempts tried to achieve PV through different techniques. Some studies think of PV as a strategic tool that can help decision makers and TMs to ascertain the critical issues in relation to applying PV in their organizations (Moore, 2003; Moore, 2013). Others deal with PV as a criterion for success (Hills & Sulivan, 2006), as a comprehensive model (Talbot, 2008), or as an analytic tool that can measure the performance of an administrative system (Try & Radnor, 2007).

The challenge to adopt a PV administrational system is to "*engage people in their own terms*" (Stoker, 2006). There are many '*participatory methods*' and techniques to engage the public in order to achieve PV, as used by The Office of The Deputy Prime Minister in 2001 (Hills & Sulivan (2006). The most popular methods are "*service satisfaction surveys,*

complaints/suggestion schemes, consultation documents, focus groups, and public meetings". Coats and Passmore (2008) introduced another classification of methods to increase public participation. The first method is the '*formal mechanism',* which can be accomplished by conducting formal consultations and public hearings. Another powerful method is '*information and communication'* in the form of leaflets, newsletters, advertising, websites, and interaction with the media. Other methods include "*effective customer service and face-to-face interaction, market research (surveys, focus), deliberative methods (citizens' panel, juries or inquiries), and developed responsibility (participatory budgeting)*". In their article, Denhardt & Denhardt (2015) investigated evidence of the use of citizen engagement strategies and its results. They declared that positive results are achieved by using '*two-way communication*' methods between governmental agencies and citizens in terms of enhancing citizenships, trust, and the quality of managerial decisions.

Mahdon (2006) discussed the problems occurred with surveys when measuring citizens' satisfaction. First, samples are usually small, and not representative of the original population, and measure specific services rather than the overall services. Second, it demands real involvement of consumers and professional communication skills on the part of the researcher. Finally, consumers' feedback and reflections should cover the whole process of generating PV instead of only specific services. This depth of feedback can be difficult to obtain.

The BBC used the '*Reach, Quality, Impact*, and *Value'* (RQIV) Framework for '*financial'* elements (Horner and Hutton; Benington and Moore, 2011). They developed their own method of recognizing and implementing PV, which consisted of combining '*The Public Value Test* and the *Market Impact Assessment',* taking into consideration the public service ethos. The most significant element of this method's success related to the vast amount of research embedded in the process (Coyle, 2010).

Tritter (2011) used another approach, which was well received by the public, namely the initiative of the NHS to create a *'third party'*, as the '*Primary Care Trust* (PCT)', to be the bridge between *'local people',* or the public and the healthcare service systems (Benington and Moore, 2011). The strength of this approach was proved by the outcomes, like the improvement of both the systems and people's health. In a similar attempt, Warner (2015) used '*Social Impact Bonds*' (SIBs) as a contract to guarantee achieving and improving social outcomes between public entities and private investors (Bryson, Crosby, and Bloomberg,

2014). Another attempt, which was also helpful according to its' findings in communicating and creating PVs, was the '*Future, backwards*' strategic workshop. In this workshop, attendees of a governmental institution were engaged in a bottom-up process to articulate and visualize certain values. Such an approach was useful to engage public employees and to explain to them the financial backgrounds that steer managerial decisions. However, this is limited to the internal organizational domain, lacks public participation and if applied for all projects would consume considerable time and effort. It also requires certain skills from the presenter to provide the necessary interactive environment to achieve its goals (Bryson, Crosby, and Bloomberg, 2014).

Anderson and Taggart (2016) discussed Bozeman's (2002, 2007) *'Public Failure Criteria'* to add a different angle to the discussion on PV application in the public sector. These elements of failure included; *'imperfect public information, distribution of benefits, provider availability, and time horizons*.' They introduced the *'Organization and Policy Driver Model for Public Value Failure'* showing clearly that there are two instruments or '*drivers'* for organizational failure: *'Institutional logic and goals'*. Institutional logic is defined by Thornton and Ocasio (1999) as "*the socially constructed, historical pattern of material practices, assumptions, values, beliefs, and rules by which individuals produce and reproduce their material subsistence, organize time and space, and provide meaning to their social reality*" (Anderson and Taggart, 2016). However, they concluded that PV failure could also go beyond these drivers.

From previous examples and attempts to understand and apply PV, it is noticeable that designing a framework that takes into consideration the core business of these public organizations is an essential element to ensuring success. All of these attempts have helped to realize that applying PV is challenging and requires analysis from different angles. The current research attempts to discuss it from the practitioners' perspective. It aligns PV objectives with PMPPs to apply more measures to practice PV in public organizations, which can help to '*understand what works best'* (Denhardt & Denhardt, 2015).

Authors	Approach	Use	Outcomes & Limitations
Moore (2003); Moore (2013)	*Public Value Scorecard*	He proposes a Public Value Strategy that can be captured by the 'strategic triangle'.	A strong tool to inform top management of critical issues related to apply PV (a starting point).
Talbot (2008)	*Competing Public Values*	A flexible model that can be easily linked to other aspects of the organisation.	A comprehensive model that focuses on leadership, innovation, strategy and operations.
Hills and Sullivan (2006)	*The Public Value Measurement Framework*	As success criteria built upon PV.	Depends on project nature, includes examples, and lacks the whole process concept.
Coyle & Woolard (2010)	*The RQIV framework & Public Value Test*	Includes 4 concepts: ***R***each, ***Q***uality, ***I***mpact and ***V***alue. And provides a public value test process.	Uses the public value test as an accountability and decision-making tool.

Table -15- Previous attempts to use Public Value in public sector

4.5 Theoretical Framework

The contribution of this study as mentioned earlier is to develop specific success criteria that meet the needs and characteristics of the public sector. The PV theory is chosen as the base of the proposed evaluation tool. Moore's (1995) Strategic Triangle -figure (9)- and Moore's (2003) '*Public Value Framework for Accountability and Performance Management*' -figure (10)- help to understand the dynamics of the theory.

When evaluating a project, the researcher must consider that project life cycles and management structures are different in each organization (Zielinski, 2005; McHugh and Hogan, 2011). Researchers have to study each project separately in terms of structure and process in order to classify which evaluation system is more appropriate. The value of the proposed tool is that it combines planning and evaluation of the project into one specific tool. On the contrary, it has been noticed from previous literature that researchers deal with planning project practices and project evaluation systems separately (Xu and Yeh, 2014). The new tool aims to offer a planning and evaluating tool in which both are essential parts of the project management process. For the planning phase, there is no specific evidence of a link between the PMs' choice of project management methods, PMBOK® or PRINCE2, and success, but the method of PMBOK® is recommended according to Wirick (2009) as well as McHugh and Hogan (2011).

The PMPA was used to specify the evaluation process. Qureshi, Warraich, Hijazi (2009) studied the relationship between project management performance and PMPA model

practices -figure (12). The results showed that there is a positive and significant impact on project performance. KPIs also have the highest impact on project management performance followed by the Project Life Cycle Management.

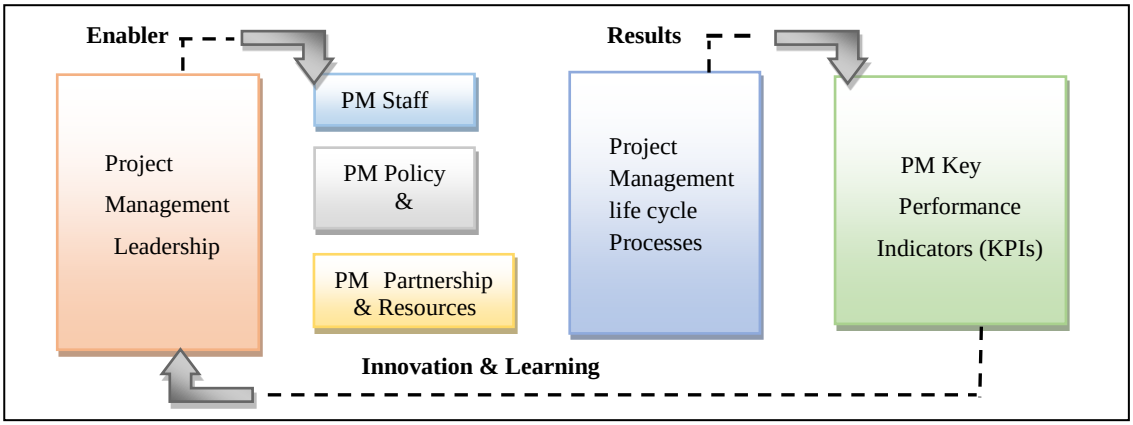

Figure -12- The Project Management Performance Assessment (PMPA), (Bryde, 2003; Qureshi, Warraich, Hijazi, 2009)

Researchers did not all agree on a universal definition of project output measures. The most cited project output variables are cost, schedule, technical performance outputs, and customer satisfaction (Pinto and Slevin, 1987; Kerzner, 2004; Cao & Hoffman, 2011). Wirick (2009) lists the five CSFs for projects in the public sector as shown in Figure (13).

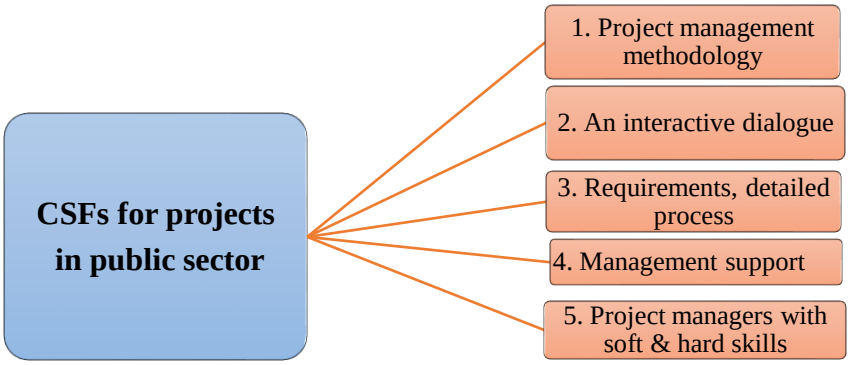

Figure -13- CSFs in Public-Sector projects. (Wirick, 2009)

White and Fortune (2006) measured the success of two public projects using a set of CSFs. These CSFs were "*goals & objectives, performance monitoring, decision makers, transformations, communication, environment, boundaries, resources, and continuity*." In the proposed tool, these CSFs are used to determine the PV creation through the project life cycle.

Figure (14) presents the theoretical framework that visualize the required elements of the assessment tool to be most suitable for public projects according to the previous literature in chapter 2, 3, and 4, *the current chapter*. According to the proposed framework, PV theory establishes the success criteria of the assessment process, in which the PM should define and choose their PMPs based on the criteria of the PV. As explained earlier, projects differ within the same organization and from one agency to another. PMs can use convenient tools and techniques according to their competence and previous knowledge.

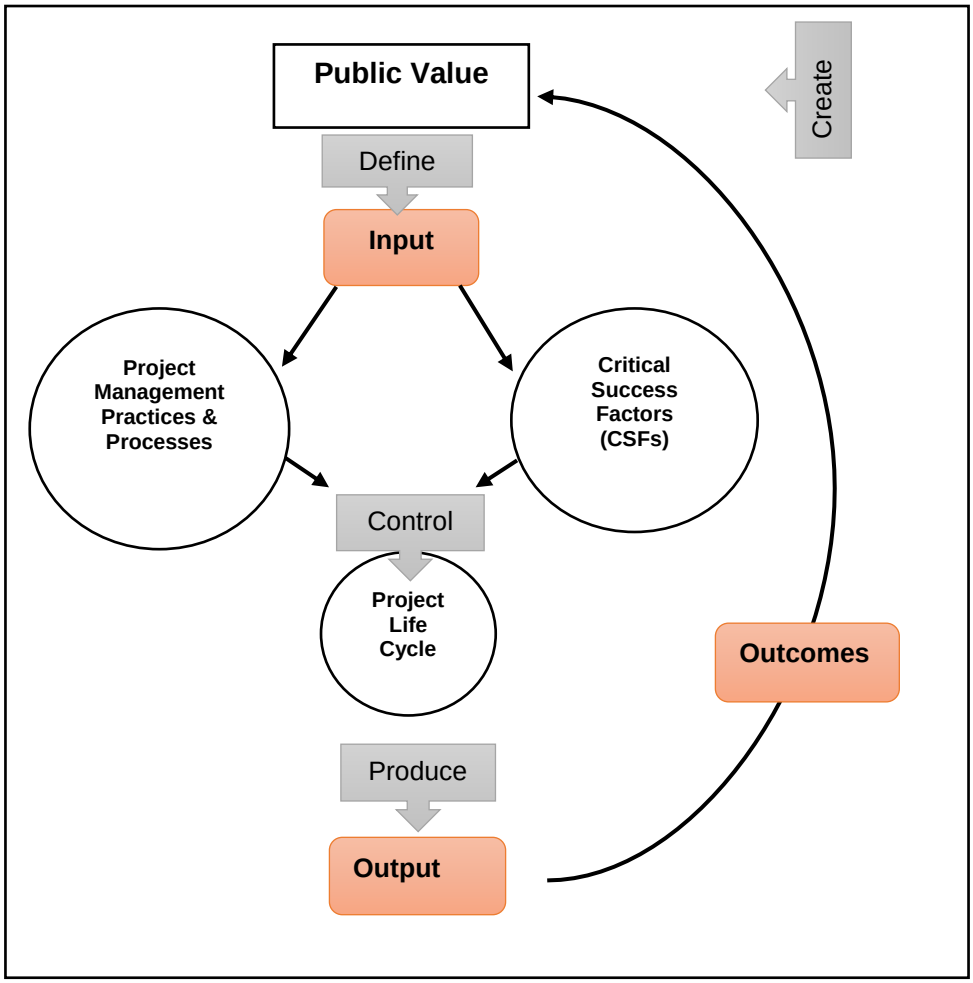

Figure- 14- Developed Theoretical Framework by researcher

The values to be achieved from the project is to *define* the input, which is a combination of the PMPPs and CSFs according to proposed tool component. The input *control* the project life cycle to sustain control of PV application. The alignment of these elements is *producing* the output, which leads to the *creation* of the outcomes that to be compared with the original set of PV and objectives.

The theoritical Framework is a framework that guides the designing of the proposed tool, which is depends on three main components; Moore (1995) PV theory, Fortune & White (2006), and PMPPs derived from both PRINCE2 & PMBOK®. Secondary models are PMPA Bryde (2003) and Talbot (2008).

4.6 Summary

Insightful discussion in this chapter provides a careful study of theoretical framework of both public administration and project management. Theories related to project management are discussed in depth, which helps to reach a conclusion about what is lacking in project management theories. More resources are available on Public Theory that demonstrates the richness of the field. By the end of the chapter, the theoretical framework is provided in an attempt to combine these fields, making up for each other's shortcomings.

Chapter 5: **Methodology**

5.1 Introduction

According to Gill and Johnson (2014), research methods for management studies are ready-made and available, so practitioners can use them whenever they are deemed suitable for the task in hand. Many aspects should be considered by the researcher before selecting or developing his/her research questions or choosing tools for data collecting.

This chapter discusses the methodological approach used to meet the objectives of the research. It starts with a brief outline of philosophical perspectives and methods used for conducting research in general. Then it continues by highlighting what the researchers think of the methods and instruments used currently in international business management research and what the field lacks according to recent academic and professional studies. Thereafter, it focuses on the project management processes in the public sector by providing 20 research articles and discusses in detail what the researchers studied and which methods they used in order to answer their questions. Following this detailed summary, the proposed methodology of the current research is presented considering the previous results from discussed literature.

5.2 Methodology in Management Research

Management research is an area of social science research that can help researchers to find out about recent researches in the management field. According to Babbie (2010), scientific research relies on logic and observation as its main pillars. For social research, logic and observation are essential and support the three major aspects of social research, which are '*theory, data collection, and data analyses'*. Scientific Theory reflects "*the logical aspect of science and provides systematic explanation for an incident*." Data collection refers to the "*observational aspect, where data analysis compares between logical accepted patterns and what observed*."

Researchers use different types of methods and instruments that best represent the school of research and methods to which they belong. Methodology is defined as "*a structured approach for delivering a project, and consists of a set of processes, with each process having clearly defined resources and activities*" (Turner, 2000; McHugh and Hagan, 2011). All studies must follow a specific research paradigm or philosophical school. A research Paradigm is classified as "*the underlying set of beliefs about how the elements of the*

research area fit together and how we can enquire of it and make the meaning of our discoveries" (Wisker, 2001).

5.2.1 Research Paradigms

Researchers are divided into two main groups when it comes to the research paradigm or philosophy they adopt in their research. Positivism, (or Internal Realism) and Social Constructionism, (or Relativism) are the main two philosophical schools in relation to management and organizational research. Positivism and constructionism are epistemologies that define the ways in which researchers get knowledge (Easterby-Smith et al., 2013).

Management research, as a type of social science research, tends to reveal causality and cause generalisation among its findings. *Causality* is classified as "*the aim of social science should be to identify causal explanations and fundamental laws that explain regularities in human social behaviour".* Generalisation, meanwhile, has been described as follows: "*in order to generalize in social science research, it needs to select samples of sufficient size*" (Easterby-Smith, Thorpe and Lowe, 1991).

Positivism sees that "*the social world exists externally, and that its properties should be measured through objective methods, rather than being inferred subjectively through sensation, reflection or intuition*" (Easterby-Smith, Thorpe and Lowe, 1991). Positivists believe that the methodology of management research must be similar to that used in physical science if the researcher wants to provide strong evidence that proves his hypothesis (Gill and Johnson, 2014). Managers, who believe in this type, tend to carry out practical activities, or their employees carry them out instead, because these kinds of activities or research provide immediate evidence, which increases their effectiveness and efficiency. Effectiveness means the *"extent to which the project outputs achieved the performance expectations of key project stakeholders*" (Lee, 2008; Liu and Cross, 2016). Efficiency, meanwhile, refers *"to the ability of the project team to meet its budget and schedule goals*" (McComb et al., 2007; Liu and Cross, 2016).

Researchers use social constructionism designs when they believe that there is "*no absolute truth*" and the researcher's main task is to illuminate different truths and discuss what is true in terms of everyday life. Examples of these designs are '*action research, archival research, ethnography, narrative methods*' (Easterby-Smith et al., 2013). Phenomenological paradigm sees the world as socially constructed and subjective, while the

observer is part of his research and of what he observes. Adherents to this approach see human interests driving science. Researchers should understand what is happening and focus on the meaning in order to develop ideas through induction from the data. Researchers will use multiple methods to establish different views of phenomena and tend to have small samples because these allow them to investigate the problem in depth or for a long time (Thorpe and Lowe, 1991). Constructionist epistemology is much less concerned with issues of validity and more concerned in providing a rich picture of life and behaviour in organizations or groups.

When comparing the two, positivism can cover a huge sample with fast and economical results, but it is not suitable for generating processes, meanings, or theories. Constructionism, on the other hand, accepts the value of multiple data sources and enables generalization beyond the present sample. One of the challenges here though is difficulty in accessing data and an inability to accommodate institutional and cultural differences (Easterby-Smith et al., 2013).

5.2.2 Research Approaches

When it comes to the methods and approaches that researchers use in order to test their hypotheses or theories, they use deduction or induction approaches. ***"****A deductive method entails the development of a conceptual and theoretical structure prior to its testing through empirical observation"* (Gill and Johnson, 1991). The deductive reasoning approach moves from a pattern that can be logically or theoretically reasonable for observations that test whether the expected pattern actually occurs. It usually begins with 'why' and moves to 'whether' (Babbie, 2010). Hypothetic-deductive science *"proceeds through a process of hypothesising fundamental laws and the deducting what kind of observations will demonstrate the truth or falsity of these hypotheses"* (Easterby-Smith, Thorpe and Lowe, 1991).

Induction, however, ***"****involves moving from the plan of observation of the empirical world to the construction of explanations and theories about what is under observation"* (Gill and Johnson, 1991). Exploratory research tries to find answers for 'what' and 'why' questions. The researcher tends to use a variety of methods to find the answer to research questions. Explanatory research asks the question 'why' and tends to look for cause/effect relationships between two or more phenomena (Wisker, 2001). Table (16) explains the differences in methods used in relation to the researcher's choice of approach.

Nomothetic methods	Ideographic methods
Test theories deductively	Test theories inductively
Etic: Use analysis to explain causal relationships.	***Emic:*** Describe subjective meaning systems and explain behaviour through understanding.
Generation and use of quantitative data.	Generation and use of qualitative data.
Test hypotheses by using various controls, physical or statistical.	Commitment to research, everyday observations, and minimize disruption to environmental research.
Examples: quasi-experiments, some action research, surveys.	Examples: Mixed methods, some action research, qualitative methods.

Table -16- A comparison between nomothetic and ideographic research methods (Burrell and Morgan, 1979; Gill and Johnson, 2014)

5.2.3 Research Strategies

There are variety of research strategies used according to the researcher's choice of approach. Management studies, within social science research, can use quantitative methods, qualitative methods, or both according to the topic and the aim of the study. Quantitative research enables the researcher to use quantitative tools, such as surveys and questionnaires, to provide numerical data like managers' years of experience or the percentage of satisfied employees within an organization. It allows for the testing of the relationship among certain indicators, like the relationship between the implementation of KPIs and the employees' evaluations. Qualitative research, on the other hand, helps the researcher to provide data to use in order to increase the possibility of finding answers to his/her research questions and to give control to the overall structure of data collection.

Qualitative research is "*an array of interpretive techniques that can describe, decode, translate, and otherwise come to terms with the meaning, not the frequency, of certain more or less naturally occurring phenomena in the social world*" (Maanen, 1979; Birkinshaw, Brannen, and Tung, 2011). Examples of qualitative methods include interviews, observations, and case studies.

There are two types of qualitative case study, instrumental and expressive. The purpose of using instrumental case studies is to look at certain cases in order to develop general principles. Expressive case studies involve investigating specific cases because of their unique features and this may or may not be generalizable to other contexts (Robert Stake, 2006; Easterby-Smith et al., 2013). The case study method is a mean of qualitative data collecting and it looks deeply into one, or a small number of, organizations, events or individuals, over time.

5.2.4 Mixed methods

In some studies, researchers may start with interviews in order to design their tools according to the input of interviewed practitioners or experts. In other cases, researchers follow their quantitative methods with some interviews or case studies to add richness to the results. Researchers often use a mixed methods approach, or triangulation. Triangulation occurs when there is a need to cover multiple perspectives by using both qualitative and quantitative methods and to add different views and experiences from participants and observers (Easterby-Smith et al., 2013). It is a common approach to use both qualitative and quantitative research methods (Wisker, 2001). In the management field, the most common way to mix methods is the case study, whereby the researcher can use interviews, archival research, documentation, observation and other suitable methods. It means here that the case study is a strategy in which we use multiple sources and methods to provide answers to our research (Yin, 2003; Gill and Johnson, 2014).

Easterby-Smith et al. (2013) discuss the importance of validity and reliability in applying methods and collecting data. Internal Validity is used in experimental designs and it aims to decrease any observed differences between groups being studied. External Validity aims to generalize the results beyond the focal study. The problem here with the mixed methods technique is the lack of a coherent rationale, especially when selecting case studies (Gill and Johnson, 2014).

In the organizational world, researchers have recently become interested in using mixed methods through case studies and action research in parallel with quantitative methods (Van de Vall et al., 1976; Gill and Johnson, 2014). Action research "*is a participatory process concerned with developing practical knowing in the pursuit of worth human purposes, grounded in a participatory worldview. It seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities"* (Reason and Bradbury, 2006; Gill and Johnson, 2014).

5.3 Methods in International Business Research

Management is a complex field in which researchers face challenges with the diversity of methodology to meet the increasing demands of practitioners and academics. The main

reason for these challenges is the multi-disciplinary (Brown, 1997; Gill and Johnson, 2014) and inter-disciplinary (Watson, 1997; Gill and Johnson, 2014) nature of management. It also covers many disciplines like finance, accounting, psychology, politics, and sociology. These were the motives for many researchers to try to include qualitative methods in order to cope with the limitation of using quantitative tools only (Van Dijkum, 2001).

Different schools have described appropriate methods for conducting social research, such as the system theory and the influential theories of Carnap (1928) and Popper (1934). According to Birkinshaw, Brannen, and Tung (2011): "*qualitative methods provide a deeper understanding and an intermediate level of analysis to help us understand individuals collaborating across contexts*."

Van Dijkum (2001) uses '*qualitative multi-variant analysis*' combined with '*qualitative analysis*' to find out how knowledge from a certain discipline can be applied to another. He compares the use of qualitative data analysis techniques and the use of qualitative methods. He holds a debate between different approaches and tries to find the most suitable one for his study. Van Dijkum questions the use of qualitative methods in isolation from quantitative tools when there is a need for longitudinal data. Researchers need to identify time related sequences as causes and effects. In some cases, causal regression, seen in numbers and correlation, is more complicated and does not reflect the logic behind the reached results. Finally, he concludes that if the result of using logic and mathematics in social science is strange, there is a need to correct and update the methodology of social research:

> *"To justify it, we should have to employ inductive inferences; and to justify these we should have to assume an inductive principle of a higher order; and so on. Thus, the attempt to base the principle of induction on experience breaks down, since it must lead to infinite regress."*
>
> *(Popper, 1959, Babbie, 2010)*

Craig and Douglas (2001) claimed there was a need to expand research settings and use more methods creatively to discover complicated cross-cultural phenomena. There are gaps to fill in the methodologies used in international business research so researchers in the field of investigating methodologies in this field of research tend to focus on the generalizability of the findings of cross-cultural studies (Yang, Wang, and Su, 2006).

Schaffer and Riordan (2003) focused on certain issues when examining key methodological issues of organizational research:

1. Research question.
2. Alignment of research context.
3. Validation of research instruments.

As a result, they achieve good practice in the areas of sample equivalence, survey administration, validation of research instruments, and other related areas. In their study, they focused on 210 cross-cultural studies, which were published between 1995 and 2001 derived from leading professional's management experience and cultural journals.

Yang, Wang, and Su (2006) focused on five categories to reveal the most applicable methods used in international business: '*data collection methods, sampling techniques, sample size, and response rates*.' Among the methods used to collect data for international business research, the survey is the most popular with 60.3% of empirical articles using them. Among surveys, the mail questionnaire survey and the administered questionnaire survey are most common. Personal and telephone interviews were the least common methods. The researchers found that articles from the *Journal of International Marketing* recorded the highest percentage of using experimental design in their studies, while the *Management International Review* (MIR) has not published any study with the experimental method as a main research method. There was also the use of the already existing data of both qualitative and quantitative types, like the governmental database, social surveys, organizational administrative data, public records, and longitudinal studies.

A preferred approach in international business studies is to target managers as the focus sample in their studies followed by other groups. In IMS journals, the focus is on managers (52%), followed by individuals (20.3%), after which came students (10%). Yang (2001) observed that 19% of empirical articles use probability samples, 26% use convenience samples and 31.3% of studies rely on other methods of sampling, such as random samples, judgment samples, financial & government data, census, and newspapers (Yang, Wang, and Su, 2006). *Probability samples* tend to provide a representativeness, by which the used sample accurately represents the whole population. This type of sampling is commonly used in quantitative research. In qualitative research, purposive sampling is used which is provides a non-probability sample, in which a specific group is chosen (Teddlie and Yu, 2007).

For the sample size, it has been noticed that the mean size for managers' samples in empirical studies is 426. Researchers agreed that low responses happen because when some sample subjects do not respond, this affects negatively the reliability and validity of the study. Such a problem makes it impossible to generalize the results. It is critical for researchers in international business to "*focus attention on question relevancy, language ambiguity, cultural and geographical distances, and the sensitivity of the study's subject that may significantly influence non-response errors*" (Helgeson, Voss & Terpening, 2002; Yang, Wang, and Su, 2006).

Yang, Wang, and Su (2006) agreed after observation of international business journals that the mean response rate of studies ranges from (27.4%) to (51.2%). For studies in the International Management Journal, this figure is (40.0%), while other studies that employed administered questionnaire survey reported the highest response rate 51.2%. Telephone interviews were conducted by (45.2%), personal interview reached (36.6%), and mail survey amounted to (27.4%). In spite of its high cost, personal interview with survey questionnaire is the most prominent mode of collecting data in most European countries, newly industrialized countries (NICs), and the developing world.

Recently, the public administration field has suffered from method bias (Meier and O'Toole, 2013b; Favero and Bullock, 2014). Favero and Bullock (2014) conducted the first study to focus on the issue of common source bias in the field of public administration is provided by (Meier and O'Toole, 2013). They investigated the issue in the first systematic evaluation in the field targeting various proposed methodological solutions for potential common source issues. They relied on six articles published in the Journal of Public Administration Research and Theory (JPART). In order to face the problem of common source bias, Public Administration scholars tried to use different approaches, such as; ignoring the problem, adjusting interpretation of variables, Harman's single-factor test, Brewer's split sample method, marker variables, differencing, finding an independent source of data, and structural equation modelling (Favero and Bullock, 2014). They focused on the importance of the method of measuring variables. It is rare to have perfect measures, but researchers should be aware of possible biases when using certain measures and how the statistical techniques can be used to solve such biases.

Triangulation is a methodological pattern that can improve the validity and reliability of the data collected. A successful triangulation method involves comparing different sources

of findings when they address the same phenomenon. Triangulation as a method comes in the form of data triangulation, theoretical triangulation, and methodological triangulation (Denzin, 1970; Yeung, 1995). Researchers, shifting the triangulation design from simple to more complex, use it for the following:

- Analysing a variety of independent derivation identification or measurement processes.
- Analysing things, which are different or similar in the conclusions or results of previous processes and conditions.
- Explaining the scope of processes in which there were differences or similarities.
- Explaining failure or success of the methods used (Jick, 1983; Yeung, 1995).

Quantitative data in organizational studies focuses on validity and reliability. Validity in surveys is measured through the '*construct validity*', which indicates surveys as correct operational measures because of the use of questionnaires and inferential statistical instruments. '*Internal validity*' is another measure, which indicates that the collected information from the research tool explains what is supposed to be explained. '*External validity*' refers to the generalization of the instrument to be applied in another situation. Bryman (1989) investigated reliability and validity in 193 organizational research articles in five leading journals published in 1985. He found that most empirical studies relied on internal reliability with validity completely untested (Bryman, 2008).

Qualitative personal interviews can give the researcher a better grasp of the study area rather than some rigid numbers. They also help the researcher to talk to the right people and are more flexible when it comes to arranging within the researcher's time. All of this renders interviews become more reliable and valid. From a review of nearly 118 papers, using qualitative or mixed methods, Birkinshaw et al. (2011) found that authors must pay attention to the importance of highlighting how the research question guides the choice of methodology or vice versa. They should also justify their choice with sufficient literature and logic. This can be challenging for most researchers because of the lack of a common accepted template for writing up such types of research (Pratt, 2009, Birkinshaw, Brannen, and Tung, 2011).

Peters and Howard (2001) discussed the characteristics that make a management research good. One of the basic elements is meeting specific success criteria and tying back the process to a solid grounding of a familiar area of research. Similarly, vital are empirical

methods in which the researcher can put into practice an idea and creative thinking, while engaging in the study and stimulating the interest of readers too.

Bryman (2008) indicates the importance of researchers providing a clear rationale that directs how they use methods, and how they justify their use of qualitative and quantitative research in actual practice. He claims that researchers tend to use mixed methods for more purposes than they mention in their rationales. To prove this claim, he used the context analysis of his previous work in 2006 of mixed methods journals and showed that only 13% of the articles proposed triangulation as a rationale, while 35% used it in practice without identifying it in the rationale.

There is a need for qualitative research in theory development and theory testing in international business research. Qualitative research can contribute by providing a rich context for researchers to explain relationships between findings and available data. It also enables researchers to discover new phenomena that can be useful for the field, something that cannot be produced by quantitative methods (Doz, 2011).

Hällgren (2012) reviewed 61 papers published during the period 2007-2011 in major project management journals in order to examine the methodology used to construct research questions in project management research. This study shows that project management as a research field suffers from a lack of theoretical and literature contributions when compared to other areas of management studies. Different ways of constructing research questions in project management research include critical confrontation, new ideas, quasi-problematization, and problematization.

All the articles being studied used the gap-spotting pattern, which is reflected in five different modes:

1. *Neglect spotting:* This is the dominant pattern, used by 28% of the articles studied, allowing researchers to claim a lack of literature, to identify a gap that needs to be filled, or to proclaim that there is a need for more empirical support because the current results are inconclusive and more research is needed.
2. *Empirical need for example:* Most practitioners support this mode in order to base an argument on an identified empirical need rather than a theoretical contribution. Among articles under study, 15% followed this pattern. Most papers of

this type lack research questions because researchers following this pattern focus on a certain aspect of practice, instead of a specific research question.

3. *Application spotting*: In this pattern, researchers try to add to a certain area of literature lacking a specific theory or another specific area of research. Among the articles under study, 13% followed this type.

4. *Confusion spotting* and *Research overview*: With percentages of 3% and 2% respectively, these patterns were less used among the studied articles. It entails the researchers constructing questions by finding competing explanations in the related literature. Researchers, using a research overview, will provide a review of literature to guide their understanding of past and/or future research directions.

5.4 Methods from related literature

The previous sections in the current chapter highlighted the researchers'input about methodology used for management and business research, research paradigms, research approaches, and startegies. This discussion guides the researcher choice of methodology and implies an intensive review of the research methods used by researchers in the field of the study. After a careful review, many articles from related academic journals, 20 case studies/articles were chosen to achieve the following purposes:

1. To recognize the common methods used by researchers in the field of project management in the public sector.
2. To connect the research questions of these studies with the chosen methods to specify limitations and possible errors.
3. To determine the most appropriate methods for the current research.
4. To learn from other researchers' experience and try to build the current research typology.

The researcher considered many factors while choosing these studies, such as:

1. *Time:* case studies were only from the 2007-2015 period which helps to ensure an up-to-date review of the latest methods used in the field.
2. *Resources:* For the case studies, 12 articles were taken from the '*International Journal of Project Management'*, four articles were taken from the '*International Journal of Public Sector'*, and the remaining four articles are

taken from the '*Journal of Organizational Change*, the *Journal of Management Development*, *Management Decision*, and *Accounting, Auditing and Accountability Journal.'*

3. *Topic:* The common topic of all articles, of empirical research and case studies, was project management processes, measuring performance, public sector management, and lessons learned from different research applied in different countries.

Although the choice of the following articles and researches was random, it is significant that they are divided into two groups when it comes to the methodology used by researchers. In table (17), there are 10 studies using quantitative methods including surveys. Another 10 case studies or research articles shown in Table (18) used the qualitative or mixed method. In their study, Yang, Wang, and Su (2006) only examined six leading journals and 1,296 empirical articles. As mentioned earlier in the chapter, they focused on five major aspects; "*data collecting methods, sample sources, sampling methods, sample sizes, and response rate*". This was not enough, according to the researchers, because further investigation is needed to know more about the choice of statistical tools for example. Following tables summarize empirical research and case studies from 19 countries worldwide and try to include more review about the choice of statistical tools used by the researchers.

Authors	Application Areas	Research Question/ Hypothesis/Prepositions	Methodology	Sample
Yang, Chen, & Wang, 2015	New Product Development (NPD) projects in the Taiwanese high-tech industry	(5) Hypotheses about the impact of *interpersonal conflict*, *product advantage*, and *project type* as mediators between requirement quality and stability and NPD project performance.	Surveys.	Managers in Taiwanese high-tech industry, with strong experience and backgrounds.
Beringer, Jonas, & Kock, 2013	Germany, Austria, and Switzerland	(3) Hypotheses on the effects of stakeholders' engagement on project portfolio success and the impact of role-clarity on stakeholders' behaviours.	- Surveys - Hypotheses tested by hierarchical ordinary. Least Squares Regression.	Empirical Sample: cross-sectional sample of (197) project portfolio managers.
Serra and Kunc, 2015	USA, UK, Brazil.	(3) Questions about the influence of success dimensions and BRM practices on project success.	- Survey (Closed questions) Likert Scales. - Sent to *APM* and *PMI* to test questions.	Management practitioners with at least 2 years of experience.
Mir and Pinnington, 2014	UAE	(3) Prepositions that there is a positive influence of project management performance and on the project success construct and elements.	- On-line questionnaires. - Pilot study of (5) Participants were requested via email or face-to-face (at work).	(154) PMs professionals in some organizations in UAE.
Berssaneti and Carvalho, 2015	Brazilian Companies	(7) Hypotheses of the impact of variables like *top management support*, *dedicated PM, and organizational maturity* on project success.	- Survey - Pre-test to evaluate the tool by academics and practitioners.	(336) Random sample of professionals working in the project field.
Yang, Huang, & Hsu, 2014	Taiwan	(6) Hypotheses of the influence of knowledge of leadership, customer management, project performance, and task characteristics on the project and organizational performance.	- Survey (Multi-item) scales.	Sample of senior individuals
Qureshi, Warraich, Hijazi, 2009	Pakistan	"To find out relationship and impact of project management leadership, Staff, Policy and Strategy, Partnership and Resources, Life Cycle process on project management performance".	- *Survey based on* (PMPA) model. - Secondary data is not available. - Personal interviews to cope with lack of survey participation.	Convenience sample of PMs from 16 Pakistani organizations
Rees-Caldwell and Pinnington, 2013	U.K and U.A.E	(8) Prepositions to compare between PMs in UK and United Arab Emirates in terms of their perceptions of different planning elements like *scope, time, risk, cost, quality, integration items, innovation, and communication.*	- Pilot study (6 PMs from both countries. - Test and translate tool before application. - Questionnaires.	A "convenient" sample of British and Arab PMs in the United Arab Emirates.
Verbeeten, 2008	Netherlands	To study the impact of performance management practices on the performance of public sector organizations.	- ***Theoretical research*** (Goal-setting theory and Agency theory. - ***Survey*** (Likert-Scale). - ***Pre-test*** questionnaire by four experts (*ex-managers & survey experts*)	(93) Public sector managers.
Gomes, Yasin, & Lisboa, 2008	Portugal	Investigation of the adoption and knowledge of public sector organizations in Portugal of the project management tools to improve the operation performance.	- Questionnaires with forced-answer questions (Likert-Scale). - The data collection tool based on project management characteristics and behaviours.	(102) public sector officials at middle-level management rank. - Applied in three cities in Portugal.

Table -17- Examples of methods used by other researchers- a sample study

Authors	Application Areas	Research Question/ Hypothesis/Prepositions	Methodology	Sample
Medina and Medina, 2014	Sweden	(2) Questions about: - The degree of the PMs' involvement in competence management in Swedish project-oriented organizations. - The effects of the PM's involvement on the company's competence goal.	1. Post-positivistic perspective: 1. In-depth semi-structured interviews. 2. Develop data collecting tool. 3. Web-based survey	PMs: - (4) Participants for interviews. - (63) Survey sample.
Rantanen et al. 2007	Finland	Identify problems facing Finnish public sector organizations when designing and implementing.	Qualitative Methods: - Theoretical reasoning to choose case studies. - Multiple-case studies research to allow cross-case analysis. - Collect data from chosen firms. - Observations to compare data to reality. - Semi-structured questionnaires used in interviews.	Managers and person involved in implementing projects: - Finnish university. - A state agency that serves ministries. - Maintenance function of the Finnish Defence Force.
Linna et al., 2010	Finland	Questions about defining and measuring productivity in the public sector.	***Stage 1***: Theoretical research. ***Stage 2***: Empirical research: - *Case study* of a Finnish public region. - *Interviews* with managers from the public sector.	Managers in Healthcare and Education public sector in a Finnish region.
Hoque, 2008	Australia	Investigation on four public Australian institutions of the use of performance measurement and practices of reporting.	Case studies based on archival documents on how to measure and report outputs and outcomes in the Australian public sector.	Data of four case studies collected from annual reports and department websites.
McHugh and Hogan, 2011	Ireland	(2) Questions about the implementation of an IRPMM (*Internationally Recognized PMs Methodology*) to manage information systems projects.	- Semi-structured personal interviews. - (5) Case studies.	- (5) Organizations from IPMI list. - PMs with certificates in PRINCE2 & PMI.
Basu, 2014	Two projects in U.K. (Heathrow Terminal 5 and High Speed 1).	To establish the key role of quality in the 'iron triangle of cost, time and quality' and highlight the importance of implementing the people related 'organization quality' amongst key stakeholders to deliver the success criteria of a project.	***Stage 1:*** Pilot Study in form of semi-structured interviews ***Stage 2:*** Questionnaire surveys followed by a conceptual research model. ***Stage 3:*** Case studies of two comparable large project-based organizations.	SMs with MPA certificates.
Cunningham and Kempling, 2009	Canada	To highlight the importance of change principles in helping change in public sector organizations.	***Stage 1***: (3) Case studies of organizations using balanced scorecard approach. ***Stage 2***: Semi-structured interviews.	- (3) Public organizations. - (60) Interviewees.
Bao, (2009)	China	Explore the similarities and differences in terms of managerial effectiveness between public- and private-sector organizations from the dimensions of motivation, constraints and opportunities.	***Stage 1:*** Case studies of in four multinational Chinese corporations. ***Stage 2:*** Collecting data through survey and semi-structured interviews.	- (98) SMs. - (70) Respondents participated in the survey. - (17) Participants in interviews.

Toor and Ogunlana, 2010	Thailand (*Second Bangkok International Airport (SBIA)*.	(2) Objectives to investigate the stakeholders' perceptions KPIs for large-scale public-sector development projects	- Empirical investigation on (SBIA). - Survey with Likert Scales. - Face-to-face interviews. - (Time) during the execution of the projects.	PMs with experience. - (76) Survey respondent. - (35) Interview respondents.
Azzone and Palermo, 2011	Italy	To contribute with a qualitative analysis of change to find out which factors prevent or help implementing managers' performance appraisal and reward systems.	***Stage 1***: Empirical investigation: collecting data from the Italian central government. ***Stage 2***: Analyse data collected through a multiple case study approach. ***Stage 3:*** (24) Semi-structured interviews.	- (6) Italian ministries, (3) during stable phase and (3) during changing phase. - (24) Participants (*ministers' advisors, TMs, staff and line managers*).

Table -18- Examples of methods used by other researchers- a sample study

5.5 The Adopted Methodology

The methods chosen for the current research were decided based on the previous discussion of familiar methods and procedures used in the management field in general and in project management specifically. After a careful study of the common methods used in the field of project management in the public sector, mixed methods were used to provide rich data in the first study of its kind in the country and to contribute to the project management practises in the public sector. Such an approach is recommended by researchers to provide evidence of the impact of CSFs, like the role of TMs, on project performance (Hermano & Martin-Cruz, 2016).

Blomquist et al. (2010) refer to the approach used here as Project-as-Practice, which '*focuses on describing the process through the identification of local situated actions.'* It is a bottom-up empirical approach, subjective, and focus on qualitative methods with a reliance on quantitative methodology as well (Hällgren and Wilson, 2007; Hodgson, 2004; Simon, 2006; Blomquist et al., 2010).

The lack of previous research in the country calls for the conducting of a study containing rich data and more investigation from the researcher, which cannot be fulfilled by using quantitative methods only. Researchers call for more use of qualitative research or a mixture of both quantitative and qualitative methods (Hurmerinta-Peltomaki and Nummela, 2006; Tsang, 2013). Mixed methods permit using quantitative methods, such as questionnaires, and qualitative methods, like interviews, observations and action research, which provides rich data about the subject being studied. Researchers use case studies to study

public sector management in a certain region or a cross-sectional sample of countries as shown in table (18).

In their study *"The role of context in case study selection: An international business perspective",* Poulis, Poulis, and Plakoyiannaki (2013) indicated that it is important for researchers, who need to use case studies in their research, to consider what the population is and which cases within this population are more suitable for exploring a study's research questions. It is also necessary to justify the choice of case studies, meaning the methodology used to include certain cases and sampling choices. Experts who examine international business literature noticed that it is common among researchers when selecting case studies to ignore the necessity to declare their reasons behind their choice.

Case studies are useful for management researchers for many reasons. They provide in-depth studies in which the researcher devotes efforts to discovering detailed information about the area of his/her research. They also reveal the social relationships and processes within the study setting because they help to answer the question '*why*' rather than only '*what*'. The most powerful element of this approach is that it allows researchers to use a variety of data types (qualitative and quantitative) and a combination of research methods (questionnaires, documents, interviews, observations). Researchers use the case study approach to focus on a specific instance depending on the topic of study (Denscombe, 2014).

Phases	Research Objectives	Research Questions	Methods (Mixed)
1. Exploratory Phase: ***a. Collecting information***	*Compile a holistic framework of PMPPs in the Public Sector.*	What is the current application of Public Value in PMPPs in Public Sector?	**Qualitative** - Related literature. - Government database: *"social surveys, organizational administrative data, public records, and longitudinal studies"* (Mack and Ryan, 2007). - Exploratory Unstructured Interviews. **Quantitative & Qualitative** - Questionnaires - Semi-structured Interviews.
b. Designing an assessment tool	*To develop a deductive Project Management Assessment Tool.*	How can PV be used as an assessment tool for Public Sector projects?	**Quantitative** A proposed assessment tool.
2. Confirmatory Phase: ***Field study***	*Evaluate the proposed assessment tool through observation, qualitative and case study research - predominantly in the state of Qatar.*	How effective is the proposed assessment tool?	**Case study** 1. Observations of a project. 2. Semi-structured Interviews. 3. Outcomes of applying proposed tool.

Table -19- Research Phases and proposed method

According to table (19), the current study will use the social constructionism paradigm. Mixed methods research strategy is used here to answer the main research question & three sub-questions, and to meet the objectives. The methodology starts with an exploratory phase in which *inductive* approach is used through intensive review of previous related literature and conducting unstructured interviews to conclude research aims and questions.

After that and during the same phase, the *hypothetic-deductive approach*, (Easterby-Smith, Thrope and Lowe, 1991; Gill & Johnson, 2010), is used to focus on testing the relationships between PMPPs and the PVs as outcomes of using both quantitative & qualitative strategy. A questionnaire is applied to collect quantitative data and semi-structured interviews are conducted to support the quantitative results. Both strategies are applied on PMs from the public sector in Qatar.

The final step of the exploratory phase is to decide upon the components of the assessment tool, whether an existing tool is suitable or there is a need for developing a new one. The choice of the assessment tool goes with Popper's *hypothetic-deductive approach* in

terms of deciding whether to follow the same initial theory or to enhanced it according to the results of the deductive approach (Gill & Johnson, 2010)

The existing tool or the developed one is used as an assessment tool in three public projects to test its effectiveness as it used or designed to measure PV creation in public projects in Qatar as a case study. This *case study approach* uses quantitative research strategy by applying a *deductive* assessment tool to diagnose the strength of PMPPs applictaion in terms of PV creation. It uses also *inductive* approach to compare the outcomes of applying the *deductive* tool to the satisfaction of team members and consumers through semi-structured interviews and observations. Table (20) explains the methods in detail considering the results accessible from tables (17) and (18).

5.6 Research Design

Phase	Data	Analysis	Outcomes
Exploratory Phase	**Qualitative data** -Archive Research -Unstructured interviews with decision makers & experts.	Coding. Transcription of interviews and a description of interviewees' responses.	- Characteristics of projects in public sector and common assessment tools and success criteria. - Proposed initial assessment tool/ success criteria - Determine projects for case study.
	Quantitative & Qualitative data -Questionnaire *(based on the proposed success criteria and current project management practices)* -Apply questionnaires on PMs in governmental ministries. -Semi-Structured Interviews with PMs in Qatari ministries. -Design a new assessment tool.	- Experts' reviews. - Data analysis using SPSS. - Coding.	- Statistical findings from the questionnaires. - Comparative analysis from questionnaire and interviews findings. - A new assessment tool and success criteria for public project success.
Confirmatory Phase	**Qualitative data** - Evaluate project with the new tool. - Observations and interviews. - Field notes.	- Coding. - Description of observations and interview results.	***Final report of:*** - Results of using new tool. - Comparative record. - Discussion, recommendations, limitations, and future research.

Table -20- Research Methodology

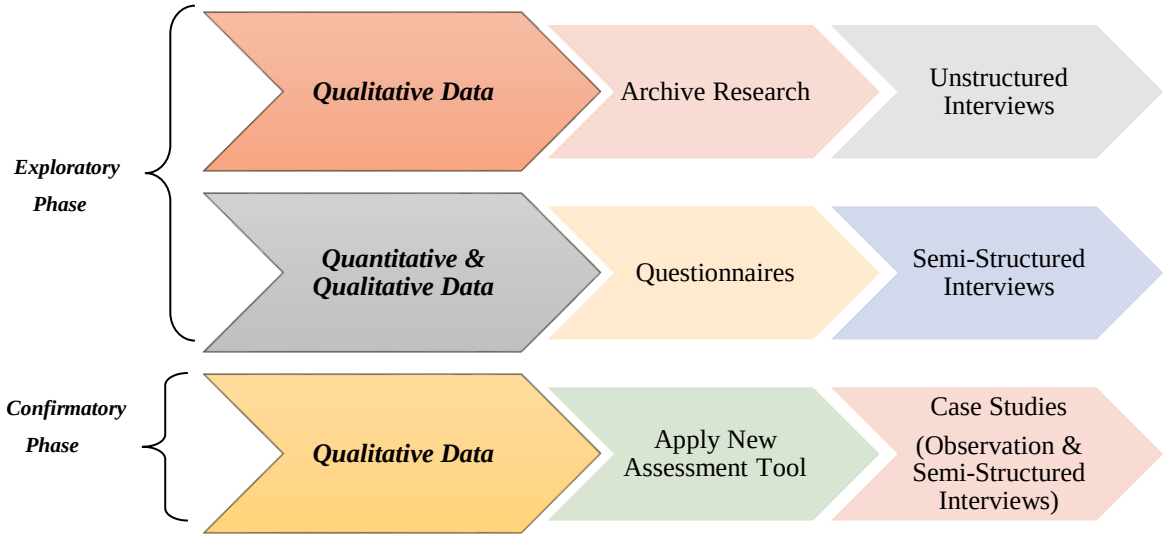

Figure -15- Research Methodology

Exploratory Phase- ***Mixed Method***

During this phase, five governmental organizations were contacted to determine at least three public projects as case studies for the confirmatory phase. This step is necessary to prevent any possible delay in the future.

1. ***Archive Research***

Most public management researches use a database provided by government or a public organization as an essential tool to build the hypotheses or questions of the study. Resources considered to be a database are social surveys, organizational administrative data, public records or annual reports, longitudinal studies, official websites and others (Mack and Ryan, 2007). Providing a descriptive report of the data from governmental records helps to summarise common characteristics of projects in the public sector. This can help in designing the success criteria for projects in the public sector, which leads to designing a suitable assessment tool to evaluate those projects.

2. ***Unstructured Interviews***

The importance of these unstructured interviews came as an essential need to figure out which are the previous attempts to implement project management in the public sector

and what kind of elements to focus on within the data collecting tools. These interviews are important in relation to the choice of the governmental organisations that the interviewees are mangers or experts in. Formal letters and emails to permit the interviews to be conducted in their organisations contact five ministries. The outcomes of these interviews will help to identify the issues arising from the questionnaires along with the literature review findings.

3. Questionnaires

Among all the examples of research used in tables (17) and (18), 14 studies use surveys/questionnaires as the main instrument to answer their research questions. Most of them use closed questions, derived from a specific model or criteria used by previous researchers to verify similar topics.

Questionnaires are designed to collect information, which is used later as data for analysis. They consist of a written list of questions within an identical set. Researchers use them when the required information is straightforward and related. They are more useful when there is a need for standardized data from identical questions without requiring personal or face-to-face interaction (Denscombe, 2014).

For the current research, *Multi-items* questionnaires are used because they allow the participants to choose the best components of the proposed research tool and express agreement or disagreement regarding the common project management practices. Qureshi, Warraich, Hijazi (2009) used a survey based on the PMPA model to ascertain the impact of project management practices on project management performance -table (17). The questionnaire items rely on PV (Moore, 1995), PVs (Jorgensen and Bozeman, 2007), PMPA Model (Bryde, 2003; Mir and Pinnington, 2014) and PMBOK® Guide (Project Management Body of Knowledge) (PMI, 2013). PMPPs are derived from a combination of PRINCE2 and the PMBOK, which are flexible in their own design and can be customised to suit the needs of any organisations with many organisations selecting, adapting and implementing only process from PMBOK methodology that suit their needs (Forrester, 2006; McHugh and Hogan, 2011).

Questions are designed in the form of a web-based questionnaire, offering many possibilities for researchers (Bhaskaran and LeClaire, 2010; Denscombe, 2014). They encourage the completion of all participants with the available options and they attract their

attention and interests. They also help with data processing in which all the answers will be transferred into the data file, be ready for the researcher to analyse, which saves time, and eliminate the risk of data entry mistakes.

To maintain an acceptable response rate, ministries and governmental organisations are contacted by official letters, email and in person. It is important to maintain a high response rate in order to provide sufficient answers to the research questions. A high rate indicates that the sample is representative of the related population (Easterby-Smith et al., 2014).

- ***Language factor***

The sample of the current research is of PMs in public ministries in Qatar and every interviewee's first language is Arabic. Most of the PMs are competent in the English language, but to be certain that they understand the questions, the questionnaire will be translated and made available in both languages. An example of such a method is found in the study conducted by Rees-Caldwell and Pinnington (2013) comparing British and Emirati PMs in terms of their adoption of project planning techniques -table (17).

4. Semi-structured Interviews

Official letters and emails to permit interviewing the target sample working for them contact eight different ministries and governmental organisations. Four ministries approved the implementation and suggested the names and titles of the interviewees. Semi-structured interviews are conducted with PMs from governmental ministries in Qatar to confirm the findings of the questionnaires. In-depth questions are asked to find out their opinions about challenges, project management techniques and methodologies, and the sources of project goals.

5. Developing an Assessment tool

After studying the common characteristics of projects in the public sector in general, and the known success criteria for those projects, an assessment tool will be developed in order to help PMs in the public sector to evaluate their projects within the enhanced success

criteria from the perspective of PV theory. The tool is designed to be adopted in the future as a computer-based software that facilitates planning projects and guarantees information sharing among members of the project team and TMs.

- ***Experts' review and pre-test***

It is very important to test questionnaires before issuing them to the chosen sample. Many researchers from exploratory studies above tested their tools, *questionnaires and surveys*, before applying them (Mir and Pinnington, 2004; Serra and Kunc, 2015; Mir and Pinnington, 2014; Berssaneti and Carvalho, 2015; Rees-Caldwell and Pinnington, 2013; Verbeeten, 2008). The researcher sent both questionnaires and the assessment tool to experts and practitioners in order to evaluate them before their application.

Confirmatory Phase- ***Case studies***

A case study is defined as "*a research strategy which focuses on understanding the dynamics present within single settings*" (Eisenhardt, 1989; Denscombe, 2014). Researchers, in some situations, use case studies according to '*deductive logic'* to test a certain model or theory in the real world. Using case studies in this context helps the researcher to find out if the model or theory can work at all in the first place and whether it can work in certain circumstances. Although case studies can offer the researcher in social science several benefits, they also have some disadvantages as they produce limited findings by focusing entirely on a certain topic. Researchers also face difficulties sometimes in accessing data and conducting their observations or interviews. Some experts argue that case studies focus on the process of the study more than the outcomes when compared with quantitative methods (Denscombe, 2014).

During the confirmatory phase, the assessment tool is applied on different public projects that are chosen at earlier stages in parallel with current assessment tools applied by assigned PMs, in governmental organizations where the projects are conducted, to evaluate both tools and report their effectiveness and points of strengths or weaknesses. The researcher will also apply interviews and observations to ensure sufficient data and findings for the current study.

- ***Semi-structured Interviews:***

By observing the previous tables (17) and (18) of case studies and researches, we notice that from 20 studies, nine used interviews as part of their methodology. Most of the researchers who used interviews were studying management or project management in the public sector. They used interviews for different purposes: as an initial tool to collect data about the research topic, to develop the collecting tool that serves as the main research method or as the main tools themselves.

Research interviews "*are a method of data collection that uses people's answers to researchers' questions as their source of data*" (Denscombe, 2014). Semi-structured interviews are used in the current research to target PMs and team members of governmental organizations from which projects will be determined. The questions are based on comparing interviewees' satisfaction with current tools and their reaction to updates after applying the proposed tool. When researchers use semi-structured interviews, they have a clear list of issues and questions in mind in relation to the research topic. In addition, they offer flexibility to the interviewer to choose the most important issues and to give interviewees the space to express their ideas towards the addressed issues (Denscombe, 2014).

- ***Observations and field notes:***

The main purpose of observations is to '*uncover accounts which may not have been accessed by more formal methods like interviews*' (Anderson, 2008; Easterby-Smith et al., 2013). The researcher will conduct an observation of the projects being studied to take notes of any additional information that the interviews do not cover.

Research Sample:

Non-probability sampling "*involves an element of discretion or choice on the part of the researcher at some point in the selection process and it is used when researchers find it difficult or undesirable to rely on random selection to the sample*". Researchers usually use this type of sampling because they think a smaller sample provides more accuracy and detail. They also do not have enough information about the research population and need official authorisation to contact the sample (Denscombe, 2014). Samples of this type are more suitable for management studies because they help researchers to develop their skills in practice and deal with a homogenous sample of experts like managers, TMs, PMs and others.

A non-probability sampling technique of 30-250 participants, especially in social research like project management studies, will be representative. This technique is chosen for many reasons. The first reason is to cope with the time constraints of researchers such as in the case of doctoral students. Another reason is the necessary characteristics of the research sample like elements of experience and location e.g. studying the performance of TMs of the public sector in a given country. The most important reason, from the researcher's view, is that it provides sufficient data and is more controllable because of size, time, and chosen characteristics (Denscombe, 2014).

The sample of the questionnaire consists of PMs from 14 ministries and governmental organizations in Qatar with sufficient field experience in managing public sector projects. At the time of conducting the questionnaire, there were 14 ministries in Qatar before they were reduced to 8 during the process of data collecting, which entails from the researcher to contact more governmental organisations and agencies that are funded by the ministry of finance. For the case study, the researcher contacted 5 ministries to permit the case studies implementations to be conducted in their organisations, but three projects were determined from two organizations to observe and to apply for the new assessment tool. A certain procedure was followed in contacting five different governmental organizations to gain approval for tool application. The sample here will be these projects' team members and relevant stakeholders.

Analytical Framework

At the first stage, data from related literature and public documents will be collected to provide common characteristics of projects in the public sector, like how PMs plan and evaluate projects, what tools they are using, and what success criteria they are following. This set of qualitative data will be analysed using coding. Thereafter, semi-structured interviews are conducted with decision makers and PMs from Qatari ministries to add data that are more accurate and to agree on a specific project in the public sector as the case study in later phases. For analysing the interviews, transcription of the interviews and description of interviewees' responses are used. In the second phase, a multi-items questionnaire is applied to measure the accuracy of the new assessment tool. The reliability of the questions is tested before issuing the questionnaires to the sample of the study by sending the questionnaires to experts for revision. The data resulting from the questionnaire will be analysed using SPSS to design the

new assessment tool. In the final phase, projects chosen at the first stage will become case studies on which observation, in-depth interviews, and field notes will be conducted. The qualitative data resulting from the case study will be analysed through coding and descriptions.

5.7 Summary

This chapter summarizes the methodology used in the current research, namely applying the mixed methods technique in collecting data and applying a new evaluation tool in case studies. Earlier presentation of previous empirical studies in the chapter help to navigate the selection of the current methodology, designed to fulfil the objectives of the research. Qualitative methods like interviews, observations, and case studies are the basic tools used to study the real application of project management in the public sector. A qualitative tool like the questionnaire is added to feed other qualitative instruments with updated and recent information about PMPPs in the Qatari public sector.

Chapter 6: **Results of the Study- *Exploratory Interviews & Surveys***

6.1 Introduction

This chapter presents fieldwork results from the research setting through both exploratory phase. The first section discusses the results of exploratory interviews with decision makers and directors of planning departments from three main ministries in Qatar. This section presents a background of the first stages of designing the current QNDS 2011-2016, and the main reasons behind the establishment of QNV 2030.

The second section presents the results of the questionnaire survey applied in governmental institutions in Qatar. This questionnaire covers PMs, directors, and experts in project management in the public sector, who are in charge of implementing and directing projects in public service domain.

Applying the developed tool is considered as a contribution to apply such a topic in a promising country like Qatar. Benington and Samaratunge (2003) address the gap in literature about creating PV in countries which are still developing. They focus on existing managerial skills and the level of administrational performance (Samaratunge and Wijewardena, 2009). Such studies are essential to provide guidance and recommendations for improvement in the public sector. All of the efforts of public organizations are directed towards achieving the 2030 vision, which supports creating PVs within entire spheres. This creates a perfect environment for such a study to take place and to add new empirical research that supports applying the PV concept. Like Qatar, the Canadian public sector tried to achieve Result-Based Management and the authors found that an obstacle to considering PV as a powerful analytic tool was the '*inflexible operational environments, information shortages or weaknesses, and lack of political leadership*' (Williams & Shearer, 2011).

The above-mentioned obstacles can be tested clearly in Qatar because of its promised national vision and the annual five-year strategic plan that encourages testing and implementing different techniques to enhance public performance that referred to in chapter 3 in details. As mentioned earlier, the main question for the research is:

Is PV an important aspect in PMPPs in public Sector in Qatar?

In order to answer to the main question, three sub-questions are investigated through the data analysis process:

RQ1: What is the current application of PV in PMPPs in Public Sector?

RQ2: How can PV be used as an assessment tool for Public Sector projects?

RQ3: How effective is the proposed assessment tool?

This section aims to find answers to the first question by conducting exploratory interviews, and questionnaires, and semi-structured interviews. The exploratory phase seeks to study the backgrounds of the public sector in Qatar and to investigate the current challenges and problems faced by PMs. Questionnaires are then designed to take all the input from previous literature and exploratory interviews to include basic and relevant items of PMPPs and PVs.

6.2 Exploratory Phase

Exploratory interviews are the first phase of the data collection process. The aim of these interviews is to shed light on all related factors and characteristics of the public sector in Qatar. After carefully reading previous literature, there was a need to examine international challenges faced in applying PV in public sectors and how project management can be used as a suggested tool to meet public needs. Three interviewees were chosen from the top management level and experts in three different ministries. The researcher contacted five ministries officially to gain approval to meet experts or top managers to ask general questions like; *what are the previous attempts to apply project management in the public sector in Qatar? How do they make sure attempts are established and fulfilled? What are the main success factors that are focused on to be achieved in the public sector and who is assigned to follow and addressed them?* Three ministries welcomed the interviews and suggested the three interviewees because of their knowledge and long experience in the public sector in Qatar and in previous attempts of applying PMPPs especially. These interviewees helped with designing the questionnaires items and focusing on similar points between their input and what the literature review confirms.

The first interview took place in June 2015 with a director of planning (interviewee.1) in one of the ministries. The interview was important, since it helped to clarify the documents that government needed to submit to the World Bank. A long discussion took place to find out the procedure that is used to achieve accountability, transparency, and equity through public services. The success criteria of the World Bank is discussed at length as well as what is required from all governmental organizations and ministries, like funding resources, impact

on society, and clear public programs and projects objectives. The main obstacle, according to interviewee 1, is the continuous change in the hierarchal structuring and TMs/ministers of these organizations.

> *"Continuous change in the managerial level is a serious issue among all governmental organizations in Qatar…. project management is not taken seriously by most top managers in the public sector. We want results, quick achievements, figures and percentage of progress. Applying project management techniques will only delay these achievements."*
>
> **(Int. 1)**

The second interviewee was one of the team members assigned to the implementation of the QNDS plan, and the monitoring of the outcome-based strategic planning initiative in ministries and governmental organizations. According to him, the health sector in Qatar was a leading example of implementing the QNDS plan that relates directly to QNV 2030. One of the basic changes has been the establishing of PMOs, Quality, and Planning Departments in all ministries and governmental institutions. He also mentioned that the vision of having PMOs was a temporary phase to help establish the elements of QNDS and QNV 2030. When asked about the techniques used to encourage public participation, he said that it was the role of e-governments and annual surveys to examine public satisfaction with the services provided. Furthermore, he explained that public managers are given the authority to use what they think is suitable for their organizations when implementing the strategic plan.

According to him, the Public Service Development Project was initiated in 2002 and it is built upon important tasks such as assessing service quality, reporting on service integration, and reaching out directly to the people who use Qatar's public services by conducting Qatar's first *National Client Satisfaction Survey*. The results of the survey show that citizens (or clients) have great expectations and belief in the governmental service in Qatar and their capabilities of doing better, when further improvement occur. However, they also revealed worries about consuming time, staff behaviour, access to service outcomes, and the need to activate e-services. Their priorities and needs include improving roads, primary health care centres, and public transportation. He also explained the *Performance Management Framework*, which covers two main levels, the government level and the ministry level. He explained the framework as follows:

"The governmental level contains societal indicators, government aspirations, and agreed policy priorities, while the ministry level targets defined and funded programs, agreement on outputs and services, output and service measures and performance reports." **(Int. 2)**

The third interview was with an expert of project management to check the terms and components of the questionnaire. He advised reducing the questionnaire items and focusing on general terms because projects in the public sector in Qatar are not overly complicated. He also explained that identifying the job of PMs among other jobs in the public sector would not be easy, because there are employees who act as PMs, although they have different job titles like directors, coordinators, and specialists. He also added:

"PMOs can be found almost in all ministries, but the role they offer now is much different from what they were established to achieve. They were established to monitor the performance of projects and report to the Ministry of Strategic Development in order to measure progress and solve challenges. Some PMOs carry on projects by themselves while others give training to team members."

(Int. 3)

These three interviews helped to explain the backgrounds of the systems operating in the public sector to achieve goals and carry out projects. Items of the questionnaire were altered as a result, and expected challenges were specified. This helped in modifying the method used to require official approval from ministries to apply questionnaires, and to prepare a practical definition for the target sample of PMs so they would not be confused with others in a way that decreases response bias. Knowledge of previous attempts to enhance the quality of services in the public sector helped greatly in figuring out what employees had already experienced. All interviewees expressed their enthusiasm to read the outcomes of the current research because of its impact on highlighting the importance of having a powerful tool to stimulate PVs in ministries and governmental agencies.

6.3 Questionnaire - *Quantitative Data Analysis*

An online questionnaire was conducted among 14 governmental organizations in the public sector in Qatar. To collect 118 responses took a period of approximately five months starting from October 2015 and ending in February 2016. Some ministries suggested, if there was a lack of responses, to print out the questionnaires and distribute them among PMs, so they would not forget to fill them out. This method was adopted with only two ministries, but

the PMs took longer time to fill them out and this yielded only 15 responses from 50. Accordingly, this was not applied to other organizations.

In designing the questionnaire items, the researcher relied on the outcomes of public reports and related literature to the main research question stated earlier. According to Forza (2002), the decision to pursue survey, research usually stems from the need to find answers to questions about the relationships between '*characteristics of people or groups to allow generalizations for a broader population*' (Martens and Carvalho, 2016).

The questionnaire consists of 57 questions split into five main areas: demographic information, project management practices, characteristics of public projects, project management processes, and PVs. The Likert scale of agreement is used to provide information about areas of project management practices, processes and PVs. A multiple-choice question is used to provide some information about public project characteristics. The (57) questions are distributed on the 5 areas as follows; (8) questions for demographic information, (11) questions about project characteristics, (16) questions about project management practices, (11) questions are about PMPs, and (11) questions about PVs. Appendix -1- presents a copy of the questionnaire.

As a final step, three experts from different governmental organizations tested the questionnaires, and their feedback was taken into consideration when editing the final version of the online questionnaire. Questions are designed in a web-based questionnaire because this offers more possibilities to researchers (Bhaskaran and LeClaire, 2010; Denscombe, 2014). They encourage all participants to complete the questionnaire with the available options and they attract and keep subjects' attention. They are also easy to process since all the answers are transferred into a data file ready for the researcher to analyse, which saves time and minimizes mistakes.

The sample of the current research covers PMs in public ministries in Qatar most of whose first language is Arabic. Although most of the PMs can use the English language, but to be sure that they understand the questions, the questionnaire is translated and available in both languages. The technique of translating back to English by a third party is used for more subjective and accurate translation. An example for that is the study conducted by Rees-Caldwell and Pennington (2013) to compare between British and Emirati PMs in the term of

their adoption of project planning. A non-probability sampling technique of (30-250) participants, especially in social research like project management studies will be representative. This technique is chosen for many reasons. First, to cope with the time constrains of the researchers like in the case of doctoral students. Another reason is the needed characteristics in the research sample like elements of experience and location e.g. studying the performance of TMs of the public sector in a country will be limited and specific. The most important reason in relation to the researcher is that it provides sufficient data since it is more controllable because of size, time, and chosen characteristics (Denscombe, 2014).

6.3.1 Response rate

When issuing the questionnaire in October 2015, the original research population from 14 governmental ministries and organizations was approximately 450 PMs. Responses to the questionnaire were collected from 118 PMs. An acceptable response rate for such a sample would be 90, rendering the current response rate acceptable (Denscombe, 2014). From the 118 responses, 93 were complete which provides a response rate of 20.6%.

6.3.2 Profile of respondents - *Demographic information*

This section provides demographic information of the respondents and covers the first eight questions of the questionnaire. It displays information about their current occupation or job title, organization, age, gender, nationality, qualification, and years of experience as PM. The total sample in this section is (118). Appendix 2 provides charts of the findings.

- ***Job Titles and Organizations***

The use of the operational definition of the PM helped significantly during the distribution of the questionnaires, since most organizations frequently asked about the target group and who exactly was meant to fill out the questionnaire. Most of the participants are directors (57%). Under this title included heads of departments, managers, and supervisors. PMs with this title make up (11%) of the sample. Experts, who are consultants and specialists also are (15%), while other job titles appear like researchers, analysts, and others who didn't specify their job titles.

The majority of the governmental institutions are of (61%) from ministries of Health, Education, Sports, Environment, Technology, Water & Electricity, Labour, and administration. Governmental agencies are second with (16%) and they cover areas like news, medicine, higher education, retirement, training, and social affairs. Other organizations are committees, legions, and a few participants who preferred not to mention their organizations.

- ***Gender***

In the survey, (61.86%) of subjects are male, and (38.14%) are female. Table (21) shows the frequency and the percentage for each category.

	Frequency	Percent
Male	73	61.86%
Female	45	38.14%
Total	118	100%

Table -21- Respondents' Gender Frequency.

- ***Age***

The age of the sample ranged from 24 years to 53 years and over. Less than (9.32%) of the individuals surveyed are under 30. Overall, (27.96%) of the individuals are younger than 37 years while (20.34%) are aged 37 years to 42 years. The percentage of the sample that are aged between 43 and 48 years is (27.97%). The rest of the sample is (14.41%) for PMs from 49 till above 54 years old.

Category of age	Frequency	Percentage
25-30	11	9.32%
31-36	22	18.64%
37-42	24	20.34%
43-48	33	27.97%
49-54	17	14.41%
beyond 54	11	9.32%
Total	118	100%

Table -22- Respondents' Age

- ***Education Level***

The majority of the sample have a Bachelor's degree (56.78%). Participants with a higher educational level is (37.29%) of the total sample; (27.97%) have a Master's degree and (9.32%) have a PhD. Undergraduates are (5.93%) of the sample.

	Frequency	Percentage
High school	4	3.39%
Diploma	3	2.54%
Bachelor's Degree	67	56.78%
Master's Degree	33	27.97%
PhD Degree	11	9.32%
Total	118	100%

Table -23- Education Level of Respondents

- ***Nationality***

Table (24) shows that among the PMs participating in the questionnaire, 64.41% are Qatari. As explained earlier, all managerial positions must be occupied by Qataris, while technical jobs are dominated by non-Qataris.

	Frequency	Percentage
Qatari	76	64.41%
Non-Qatari	42	35.59%
Total	118	100

Table -24- Respondents' Nationalities

- ***Years of Experience***

The majority of the sample have 3-7 years of experience as PMs (27.97%). PMs with 8-12 years of experience are the next most common with (24.58%). PMs with years of experience from 13 to 22 are (22%). The percentage of PMs with less than 3 years of experience is (14.41%), which equals the percentage of those with more than 22 years. The intention was, as indicated in chapter 5, to focus on project managers of more than 3 years of experience, but due to the small number of project managers all the suitable responses are considered.

6.3.3 Characteristics of Projects in the Public Sector

There are 11 items for multiple-choice questions in order to collect some information about the characteristics of public sector projects. For this section, 98 is the total of the complete responses. Appendix 2 provides charts of the findings.

- ***Types of Projects***

Administrative projects and technical & IT Application dominate the sample with (29.59%), followed training & HR with (16.33%), and finally studies & research are

(11.22%). Other responses were responsible for (13.27%), and referred to other types of projects that related more to education, water & electricity, architecture, healthcare, awareness, etc.

- ***Number of Employees***

The majority of the questionnaire respondents indicate that they have one to six employees or team members in their projects with the percentage of (42.85%). Teams of 7 to 20 employees are (29.59%) of the whole sample. The last percentage goes to teams with more than 20 members is (27.55%).

- ***Project Duration***

The research sample indicates that (43.88%) of public projects last for more than a year. Meanwhile, (24.49%) last between 8-12 months. A total of (15.35%) of projects last from a month to three months, and projects from four to seven months make up (14.29%). Projects lasting less than a month make up only (2.04%) of the whole sample.

- ***Responsibility for Decisions***

Choices / Questions	Senior Management	Board of Directors	External Body/Committee	PMs	Other
Who took decisions during implementation phase?	43	10	1	38	6
Who is responsible to declare project success?	46	10	12	23	7

Table -25- Responsibility during Project Life Cycle.

Among the whole sample, (43) thinks that SMs take decisions during the implementation phase and (46) thinks that they are also responsible for declaring project success. Interestingly, (10) respondents think that the board of directors are taking those decisions. From the sample, (38) believe that PMs are the ones taking decisions during the implementation phase, and that their role is reduced when declaring project success as only (13) agreed with that view. Deciding whether the project is successful or not is the role of an external body or committee according to (12) of the sample, while just one thinks they can take decisions during the implementation phase. Others think that taking decisions is the role of more than one source.

- ***Meetings during projects***

Choices / Questions	No Meeting	1-3 Meetings	4-7 Meetings	More than 7
Meetings among team members	1	7	13	77
Meetings between PMs and senior management	5	37	18	38

Table -26- Meetings during the Project.

From the table above, there is a noticeable agreement that the majority of meetings with SMs are either (1-3) meetings or more than (7), while meetings among team members exceed (7) according to (77) out of the sample.

When asked about the training A significant percentage of PMs say that most of the training programs take place at the beginning of the project (34.69%), while (28.57%) indicate that training occurs during the project. For the rest, (17.35%) say that no training is needed for their team members and (19.49%) indicate that they themselves do not need training.

- ***Project Completion***

One of the most important questions referred to when a project is considered as completed. The majority stated this is upon the sending of the final report (37.76%), while discussing the final report was chosen by (24.49%). Overall, (14.29%) of the sample indicate that the project ends upon the decision of senior management. A percentage of (4.08%) agreed that the project considers done when the budget is closed.

- ***Project Management Tool***

Project Schedule is in the lead with (69) responses and status report with (61). In the range of (30) to (41) was the use of other tools, such as lesson learned, Gantt, PERT, Microsoft Project Manager Software, Issue log, Risk Analysis and WBS. Cost Benefit Analysis comes with (12) choices proceeded by CPM. Cash Flow Analysis (CFA) comes last with (5) responses.

6.3.4 *Current PMPPs*

- **Project Management Practices**

For this section, (95) complete responses were considered. Section three of the questionnaire contains (16) questions about project practices in the public sector in Qatar. Appendix 2 provides charts of the findings.

The participants expressed their agreement or disagreement with the common project management practices in the public sector in Qatar. There are 15 questions in this section to cover the common practices of SMs and organizations in the public sector that relate to project management.

When asked about participants' responses to managers' decisions regarding project management practices in the organization, fewer opinions of disagreement are expressed about managerial project management practices. Less agreement is also shown in the responses to question (31) about time management, in which answers are divided into similar percentages of agreement and disagreement. This means that not all TMs are strict regarding the time factor. Other answers positively embrace the role of TMs in developing project management practices, providing training opportunities, hiring experts, and taking on board PMs' comments and views during the implementation and after closing the project in the form of lessons learned for future projects.

More than (80%) of the whole sample agree that they choose their practices according to the project goal. Nearly half of the sample agree on the existence of standardized practices of project management in their organization that are used for all kinds of projects.

Among the answers, participants' satisfaction is measured on the impact of three constraints - time, budget, and quality - on public project success. Responses show that the majority agree that current project management tools are effective in delivering projects on time. Quality as a measure of success received less backing compared with time and budget factors. Increasing the budget does not seem of any urgency to PMs which indicates that a sufficient budget is provided for public projects.

There is strong agreement regarding the communication practices that are conducted during the planning and implementation phases of public projects. A higher percentage of agreement is expressed toward the statement that project management processes are explained to the project team during the planning phase. The sample also agreed widely that there are continuous meetings between team members to discuss project progress in line with the approved plan.

Participants' agreement about the evaluation practices is measured in Questions 28, 34, and 35. They agree strongly that their evaluation of the project is taken into consideration in the final evaluation report. The majority also agree that any failure of projects will affect

the annual evaluation of the PM. Less agreement is expressed regarding the existence of an incentive system for rewarding the excellent performance of PMs and team members.

- **Project Management Processes (PMPs)**

Section four focuses on project processes with (11) questions and (94) complete responses. Appendix 2 provides charts of the findings.

Questions included in this section cover processes of the project life cycle from initiating and planning until monitoring and evaluating. This section contains 10 questions that apply the Likert scale of agreement.

The majority of participants agreed that there is a WBS with all activities of the project, that there are project plans that contain all deliverables, dates of activities, tasks, budget, etc., and that the use of tools determine the progress of projects in terms of time measurement. More disagreement is found when asked about allocating resources according to the types and sizes of both human and physical resources that are required for each activity during the project life cycle.

Regarding the execution processes during the project, participants agree to a large extent that there is an explanation of how to submit progress reports. Less agreement is expressed about the existence of a risk plan to deal with challenges. Participants agreed that there is a system to manage communication of project updates and information collection and storage processes. Less agreement is found about determining budget expenditure during project implementation.

Most respondents agree that there are quality standards, KPIs, and checklists to facilitate the evaluation of project results. They agreed that there is a detailed description of all project phases with a sufficient explanation of how and when to apply measurements. Less agreement is expressed towards having PMOs to assist PMs through different phases of the project.

6.3.5 *Public Value in Qatar*

There are 11 questions regarding the existence of PVs in public sector projects and (93) complete responses. Appendix 2 provides charts of the findings. Opinions are expressed here to indicate the participants' unwillingness to give definite answers or simply a lack of knowledge about managerial procedures. But the majority agreed that SMs always seek

official approval before initiating projects and that they encourage competitions with other institutions in order to achieve the best possible level of service.

A high level of agreement is expressed regarding the employees' realization of strategic goals upon which projects are built. Similar levels of agreement and disagreement are expressed relating to the organization being transparent in delivering projects' outcomes, exchanging knowledge and experience among governmental institutions, and the distribution of knowledge among staff members after the closure of the project.

Most of the sample agree that public satisfaction toward services and projects is considered a final element of the project evaluation system. Less agreement is noted about using social media to reach a larger percentage of target groups in order to get feedback about provided services.

When asked about meeting public needs during project planning and implementation, participants give, interestingly, a similar percentage of neutral opinions about promoting values of equality, rights protection, efficient public treatment, and considering future projects according to the outcomes of public satisfaction measurement. A similar level of agreement is expressed also for the three questions with minimal disagreement.

6.3.6 *Relationship Testing & Questionnaire Results*

In order to investigate the relationship between PVs (Jorgensen and Bozeman, 2007) and PMPPs in the public sector, issues related to the project's nature must be taken into consideration. First, the researcher examines the relationship between PVs and the life cycle of the project in order to find out which phases are more susceptible to applying PVs and which are not. Then, the PVs' application is seen through considering practices and processes that address the CSFs in relation to elements of a project's success or failure. Fortune & White (2006) applied these CSFs to different public projects and concluded that the project that considered all the CSFs gained the agreement of the stakeholders and was successful. For this part, the complete (93) responses are considered.

- **Factor analysis**

Data analysis is performed using SPSS20 software. Factor analysis is "*a multivariate statistical method that has the proposal of defining a subjacent structure in a matrix of data, which means that it analyses the structure of the inter-relations (correlations) between*

variables, defining a set of common latent dimensions called factors" (Hair et al., 2006; Martens and Carvalho, 2016). To see if the data collected are consistent with the aim of conducting the questionnaire, these items measure five different groups. The five groups are displayed in the following table:

Project Life Cycle	Questions
Initiating & Planning	23,27, 36, 37,38, 40
Executing	24, 29,33, 34,39,41
Monitoring & controlling	43, 44,45
Closing	25, 26, 28,35,42
Public Values	49, 50, 51,52, 54,55, 56, 57

Table -27- Factor Analysis Groups

First, the research conducts a principal axis factoring analysis. This analysis will attempt to create factors, which are linear combinations of the variables (the 28 items on the questionnaire) that estimate the "latent variables" or constructs that the instrument is measuring. The principal axis factoring analysis method of creating factors attempts to create them in such a way that alpha (reliability) is maximized. The researcher could create as many factors as there are variables, but that is not the intention here. Since the claim here is that this instrument measures five constructs, there is a need to ask SPSS to create only five factors.

Therefore, SPSS is requested to create only five factors. The communalities in the extracted column show how much variance each variable has in common with the four factors. Items 20, 21, 22, 30, 31, 32, 46, 47, 48, and 53 were found to have disturbingly low values. If a variable does not share much variance with the other variables or with the retained factors, it is unlikely to be useful in defining a factor. By checking the above 10 variables, it was found that they have no impact on the validity of the factors; therefore, they were simply excluded from the analysis. Consequently, 28 variables are left which are to form the five factors or conceptual categories. The Factor Matrix gives us the loadings, that is, the correlations between each variable and each factor. Note that Items 24, 29, 33, 34, 39, and 41 are positively correlated with Factor1. Items 49, 50, 51, 52, 54, 55, 56, and 57 are positively correlated with Factor2 (Public Values). Items 25, 26, 28, 35 and 42 are positively correlated with Factor 3 (closing phase). Items 23, 27, 36, 37, 38 and 40 are positively correlated with Factor4 (initiating & planning phase). Items 43, 44 and 45 are positively correlated with Factor 5 (monitoring & controlling phase). The following table shows the five factors.

Rotated Factor Matrix[a]

	Factor				
	1	2	3	4	5
Q24	.761	.169	.217	.061	.033
Q29	.682	.237	.233	.144	.211
Q41	.592	.306	.072	.049	.238
Q33	.591	.267	.190	.156	.237
Q34	.523	.365	.051	.292	.113
Q39	.328	.035	.284	.164	.191
Q54	.304	.699	.150	.186	.089
Q56	.105	.630	.058	.404	.435
Q55	.140	.588	-.003	.430	.287
Q50	.349	.578	.132	.073	.048
Q51	.201	.570	.263	.346	.277
Q52	.489	.526	.219	-.101	.145
Q49	.180	.502	.420	.158	.040
Q57	.416	.466	.151	.132	.061
Q25	.236	.135	.592	.371	.297
Q28	.300	.130	.591	.216	.072
Q42	.171	.080	.490	.042	.101
Q35	.270	.126	.488	.075	.362
Q26	-.109	.098	.332	.307	.045
Q23	.189	.096	.243	.777	.043
Q36	-.005	.361	.306	.520	.114
Q38	.281	.312	-.069	.486	.468
Q37	.343	.182	.275	.414	.091
Q40	.174	.198	.298	.303	.031
Q27	.110	.192	.101	.198	.154
Q44	.169	.205	.218	.013	.654
Q45	.444	-.011	.316	.188	.599
Q43	.072	.268	.431	.184	.445

Extraction Method: Unweighted Least Squares.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 21 iterations.

Table -28- Rotated Factor Matrix

- **Reliability Analysis**

Cronbach's alpha is a measure of reliability. More specifically, alpha is a lower bound for the true reliability of the survey. Mathematically, reliability is defined as *"the proportion of the variability in the responses to the survey that is the result of differences in the respondents*" (Cronbach, 1951). That is, answers to a reliable survey will differ because respondents have different opinions, not because the survey is confusing or has multiple interpretations. The computation of Cronbach's alpha is based on the number of items in the survey (k) and the ratio of the average inter-item covariance to the average item variance (Cronbach, 1951).

A= k (cov/var) 1/ (k−1) (cov/var)

Under the assumption that the item variances are all equal, this ratio simplifies to the average inter-item correlation, and the result is known as the standardized item alpha (or Spearman-Brown stepped-up reliability coefficient).

A=kr1/ (k−1) r 1.

Reliability Statistics

Cronbach's Alpha	N of Items
0.932	28

Table -29- Reliability Statistics

By looking at the output here, Cronbach's alpha is 0.932, which is an acceptable value for a research instrument.

Factor 1 (executing phase)

Reliability Statistics

Cronbach's Alpha	N of Items
0.839	6

Table -30- Reliability Statistics- Executing Phase

By looking at the output for the Factor1 items (executing phase), Cronbach's alpha is 0.839, which is an acceptable value for a research instrument.

Factor 2 (Public Values)

Reliability Statistics

Cronbach's Alpha	N of Items
0.882	8

Table -31- Reliability Statistics- Public Values

The output for Factor2 items (Public Values) shows an acceptable alpha of 0.882.

Factor 3 (closing phase)

Reliability Statistics

Cronbach's Alpha	N of Items
0.734	5

Table -32- Reliability Statistics- Closing Phase

The output for the Factor3 items (closing phase) shows an acceptable alpha 0.734.

Factor 4 (initiating & planning phase)

Reliability Statistics

Cronbach's Alpha	N of Items
0.751	6

Table -33- Reliability Statistics- Initiating & Planning Phase

The output for the Factor4 items (initiating & planning phase) shows an acceptable alpha = 0.751.

Factor 5 (monitoring & controlling phase)

Reliability Statistics

Cronbach's Alpha	N of Items
.747	3

Table -34- Reliability Statistics- Monitoring & Controlling Phase

The output for the Factor5 items (monitoring & controlling phase) shows an acceptable alpha = 0.747.

Summary of Reliability & Validity

Factors	N of items	Reliability	Validity
Factor 1 (executing phase)	6	0.839	0.916
Factor 2 (Public Values)	8	0.882	0.939
Factor 3 (closing phase)	5	0.734	0.856
Factor 4 (initiating & planning phase)	6	0.751	0.866
Factor 5 (monitoring & controlling phase)	3	0.747	0.864
Total	28	0.932	0.965

Table -35- Reliability Statistics for all phases.

Data Analysis

- ***Likert scale***

Weighted mean	Level	Attitude
From 1 to 1.79	1	Strongly disagree
From 1.8 to 2.59	2	Disagree
From 2.6 to 3.39	3	Neutral
From 3.4 to 4.19	4	Agree
From 4.2 to 5	5	Strongly agree

Table -36- Likert Scale (Likert, 1932)

- ***Executive Summary of Survey Findings:***

Statements	% strongly Agree	% Agree	% Neutral	% Disagree	% strongly disagree	Rating Average	Final result
Q20	30.9	52.1	12.8	2.1	2.1	4.11	Agree
Q21	24.5	50.0	14.9	9.6	1.1	3.93	Agree
Q22	22.3	42.6	22.3	11.7	1.1	3.76	Agree
Q23	18.9	61.1	16.8	2.1	1.1	3.96	Agree
Q24	10.5	56.8	22.1	9.5	1.1	3.72	Agree
Q25	16.8	49.5	22.1	11.6		3.75	Agree
Q26	26.3	43.2	21.1	9.5		3.92	Agree
Q27	24.2	62.1	9.5	4.2		4.04	Agree
Q28	18.9	55.8	15.8	8.4	1.1	3.88	Agree
Q29	37.9	49.5	7.4	5.3		4.19	Agree
Q30	22.1	32.6	29.5	14.7	1.1	3.51	Agree
Q31	9.5	33.7	15.8	30.5	10.5	2.92	Agree
Q32	13.7	55.8	23.2	5.3	2.1	3.75	Agree
Q33	8.4	35.8	30.5	23.2	2.1	3.29	Agree
Q34	9.5	28.4	27.4	28.4	6.3	3.08	Neutral
Q35	13.7	46.3	21.1	15.8	3.2	3.56	Agree
Q36	37.2	53.2	4.3	4.3	1.1	4.19	Agree
Q37	19.1	63.8	7.4	9.6		3.96	Agree
Q38	25.5	51.1	13.8	9.6		3.95	Agree
Q39	24.5	45.7	16.0	13.8		3.87	Agree
Q40	17.0	51.1	20.2	8.5	3.2	3.71	Agree
Q41	16.0	44.7	20.2	14.9	4.3	3.53	Agree
Q42	17.0	57.4	13.8	10.6	1.1	3.77	Agree
Q43	12.8	56.4	18.1	10.6	2.1	3.71	Agree
Q44	19.1	67.0	8.5	5.3		4.00	Agree
Q45	12.8	52.1	23.4	8.5	3.2	3.67	Agree
Q46	19.1	43.6	22.3	13.8	1.1	3.69	Agree
Q47	26.9	40.9	28.0	4.3		4.00	Agree
Q48	17.2	57.0	20.4	5.4		3.89	Agree
Q49	17.2	50.5	23.7	7.5	1.1	3.79	Agree
Q50	8.6	45.2	29.0	16.1	1.1	3.47	Agree
Q51	12.9	53.8	28.0	5.4		3.76	Agree
Q52	20.4	31.2	31.2	14.0	3.2	3.55	Agree
Q53	8.6	43.0	30.1	18.3		3.41	Agree
Q54	9.7	46.2	23.7	20.4		3.52	Agree
Q55	15.1	46.2	32.3	6.5		3.68	Agree
Q56	10.8	48.4	30.1	10.8		3.59	Agree
Q57	18.3	41.9	31.2	8.6		3.68	Agree

Table -37- Frequency Results

- ***Testing of Relationships:***

In order to answer the first question (*What is the current application of PV in project management practices in the public sector?*) Relationships (Rs) are tested between project practices and PVs in the first section, and project processes and PVs in the next one. Each relationship is presented along with descriptive statistics and corresponding tables are described as well. Likelihood ratio chi-squared coupled with Gamma tests are used to check if there are no relationships. Significance was tested at the alpha = 0.05 level. Therefore, if the probability of occurrence of the calculated test statistic is less than or equal to the probability of alpha, a Type 1 error, the no relationship is rejected and it is then concluded that the result supports the research relationship with more than 95% confidence. Corresponding tables are described as well. Significance was tested at the alpha = 0.05 level.

R.	Areas of Testing	Relationships	practices Qs	Public Values Qs
1	**Practices vs. PVs during initiating & planning Phase.**	*There is no relationship between project management Practices and PVs during initiating & planning Phase.*	**22, 23, 27, 33**	**47, 48, 56, 57**
		There is a relationship between project management practices and PVs during initiating & planning phase.	**22, 23, 27, 33**	**47**
			23	**47, 48, 56, 57**
			33	**47, 48, 56, 57**

Table -38- Relationship (1) Practices vs. PVs during initiating and planning Phase

R (1): There is a relationship between project management practices and PVs during initiating and planning Phases.

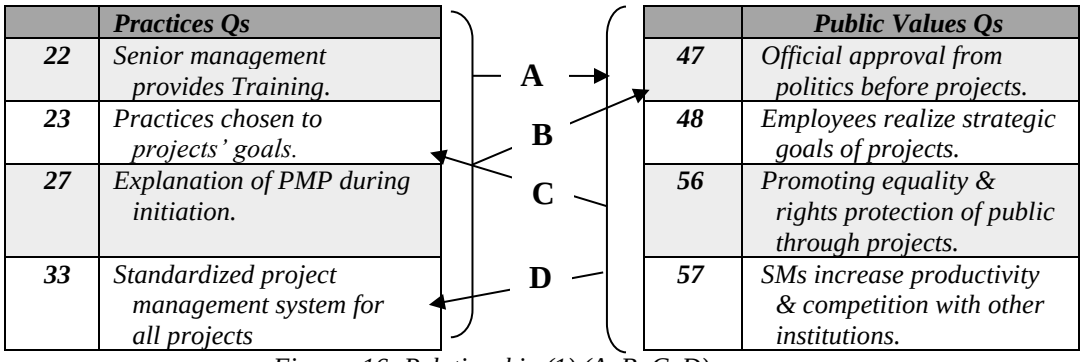

Figure -16- Relationship (1) (A, B, C, D)

Relationship (1.A)

There is a relationship between (all) practices and (all) PVs during initiating and planning phase.

Table (39) shows Asymp. Sig. = .002, as 0.002 is smaller than α=0.05, So, we have a relationship between project management practices and PVs during the project's early stages.

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	30.899[a]	12	0.002
Likelihood Ratio	30.197	12	0.003
Linear-by-Linear Association	18.684	1	0.000
N of Valid Cases	93		

a. 12 cells (60.0%) have expected count less than 5. The minimum expected count is .02.

Table -39- Relationship (1.A) Chi-Square Tests

Symmetric Measures					
		Value	**Asymp. Std. Error[a]**	**Approx. T[b]**	**Approx. Sig.**
Ordinal by Ordinal	Gamma	.630	.099	5.182	.000 [c]
	Spearman Correlation	.468	.083	5.056	.000[c]
Interval by Interval	Pearson's R	.451	.077	4.816	.000[c]
N of Valid Cases		93			

Table -40- Practices during initiating & planning vs. PVs. relationship (1.A).

The correlation between project management practices (22, 23, 27, 33) and PVs (47, 48, 56, 57), is .451. This shows that the correlation between the project management practices and PVs is moderate. The correlation significance level is .000; it is acceptable in terms of statistical significance.

Relationship (1.B)

There is a relationship between (all) practices during the initiating and planning phase and getting approval from political authorities.

Table (41) shows Asymp. Sig. = .226, as 0.226 is larger than α=0.05, which means that there is no relation between project management practices (22, 23, 27, and 33) and PVs (Q47). This means that getting approval from political authorities is not essential for public projects in Qatar.

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15.296[a]	12	.226
Likelihood Ratio	15.711	12	.205
Linear-by-Linear Association	1.525	1	.217
N of Valid Cases	93		

a. 11 cells (55.0%) have expected count less than 5. The minimum expected count is .04.

Table -41- Relationship (1.B) Chi-Square Tests

Symmetric Measures					
		Value	**Asymp. Std. Error[a]**	**Approx. T[b]**	**Approx. Sig.**
Ordinal by Ordinal	Gamma	.216	.140	1.525	.127
	Spearman Correlation	.167	.107	1.611	.111[c]
Interval by Interval	Pearson's R	.129	.102	1.238	.219[c]
N of Valid Cases		93			

Table -42- Practices during initiating & planning vs. PVs. relationship (1.B).

The correlation between project management practices (22, 23, 27, and 33) and PVs (Q47), is .129. This shows that the correlation between the project management practices and PVs is very low. The correlation significance level is .219; it is not statistically significant.

Relationship (1.C)

There is a relationship between PVs and choosing practices according to project goals during the initiating and planning phase.

Table (43) shows Asymp. Sig. = .086, as .086 is larger than α=0.05, which means that there is no relation between project management practices (Q23) and PVs (Q47, 48, 56, 57). This indicates that PMs are not choosing their techniques or tools with project goals in mind.

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	19.100[a]	12	.086
Likelihood Ratio	18.764	12	.094
Linear-by-Linear Association	11.769	1	.001
N of Valid Cases	93		

a. 15 cells (75.0%) have expected count less than 5. The minimum expected count is .02.

Table -43- Relationship (1.c) Chi-Square Tests

Symmetric Measures					
		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Ordinal by Ordinal	Gamma	.529	.120	3.738	.000
	Spearman Correlation	.361	.089	3.687	.000[c]
Interval by Interval	Pearson's R	.358	.081	3.654	.000[c]
N of Valid Cases		93			

Table -44- Practices during initiating & planning vs. PVs. relationship (1.c).

The correlation between project management practices (23) and PVs (Q47, 48, 56, 57), is .358. This shows that the correlation between the project management practices and PVs is low.

Relationship (1.D)

There is a relationship between (all) PVs and having a standardized project management system for all projects during the initiating and planning phase.

Table (45) shows Asymp. Sig. = .772, as .772 is larger than α=0.05, which means that there is no relation between project management practices (Q33) and PVs (Q47, 48, 56, 57). There is no relation between having a standardized project management system and PVs.

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.165[a]	12	.772
Likelihood Ratio	8.926	12	.709
Linear-by-Linear Association	4.493	1	.034
N of Valid Cases	93		

a. 12 cells (60.0%) have expected count less than 5. The minimum expected count is .04.

Table -45- Relationship (1.D) Chi-Square Tests

Symmetric Measures					
		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Ordinal by Ordinal	Gamma	.276	.129	2.073	.038
	Spearman Correlation	.216	.102	2.107	.038[c]
Interval by Interval	Pearson's R	.221	.101	2.162	.033[c]
N of Valid Cases		93			

Table -46- Practices during initiating & planning vs. PVs. relationship (1.D).

The correlation between project management practices (33) and PVs (Q47, 48.56, 57), is .221. This shows that the correlation between the project management practices and PVs is low.

Relationship (2):

There is a relationship between project management practices and PVs during executing phase.

R.	Areas of Testing	Relationships	practices Qs	Public Values Qs
2	**Practices vs. PVs during executing phase.**	*There is no relationship between project management practices and PVs during executing phase.*	**24, 29,**	**53,**
		There is a relationship between project management practices and PVs during executing phase.		

Table -47- Relationship (2) Practices vs. PVs during executing Phase

	Practices Qs			***Public Values Qs***
24	*Current tools help in completing projects on time.*		***53***	*There is a cooperation and exchange of experiences and information among governmental institutions during project implementation.*
29	*Continuous meetings between project team to discuss progress according to developed plan.*			

Figure -17- Relationship (2)

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.896[a]	9	.648
Likelihood Ratio	7.725	9	.562
Linear-by-Linear Association	4.538	1	.033
N of Valid Cases	93		

a. 10 cells (62.5%) have expected count less than 5. The minimum expected count is .43.

Table -48- Relationship (2) Chi-Square Tests

Table (48) shows Asymp. Sig. = .648, as .648 is larger than α=0.05, which means that there is no relation between project management practices (Q24, 29) and PVs (Q53). This indicates that the value of cooperation among governmental organizations is not taken into consideration when applying time tool management and during continuous meetings among team members.

Symmetric Measures					
		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Ordinal by Ordinal	Gamma	.310	.126	2.352	.019
	Spearman Correlation	.224	.094	2.193	.031[c]
Interval by Interval	Pearson's R	.222	.087	2.173	.032[c]
N of Valid Cases		93			

Table -49- Practices during executing vs. PVs. relationship (2).

The correlation between project management practices (24, 29) and PVs (Q53), is .222. This shows that the correlation between the project management practices and PVs is low.

Relationship (3):

There is a relationship between project management practices and PVs during the monitoring and controlling phase.

R.	Areas of Testing	Relationships	practices Qs	Public Values Qs
3	**Practices vs. PVs during monitoring & controlling phase.**	*There is no relationship between project management practices and PVs during monitoring & controlling phase.*	**28**	**55**
		There is a relationship between project management practices and PVs during monitoring & controlling phase.		

Table -50- Relationship (3) Practices vs. PVs during monitoring & controlling phase

	Practices Qs			***Public Values Qs***
28	*The team members' evaluation of the project is taken into consideration in the final evaluation process.*	→	***55***	*The organization promotes the values of the staff to deal efficiently and fairly with the target group.*

Figure -18- Relationship (3)

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.326[a]	12	.280
Likelihood Ratio	15.021	12	.240
Linear-by-Linear Association	4.360	1	.037
N of Valid Cases	93		

a. 14 cells (70.0%) have expected count less than 5. The minimum expected count is .06.

Table -51- Relationship (3) Chi-Square Tests

Table (51) shows Asymp. Sig. = .280, as .280 is larger than α=0.05, which means that there is no relation between project management practices (Q28) and PVs (Q55).

Symmetric Measures					
		Value	**Asymp. Std. Error[a]**	**Approx. T[b]**	**Approx. Sig.**
Ordinal by Ordinal	Gamma	.301	.140	2.060	.039
	Spearman Correlation	.222	.106	2.169	.033[c]
Interval by Interval	Pearson's R	.218	.109	2.128	.036[c]
N of Valid Cases		93			

Table -52- Practices during Monitoring & Controlling Phases vs. Public Values. Relationship (3).

The correlation between project management practices (Q28) and PVs (Q55), is .218. This shows that the correlation between the project management practices and PVs is low.

Relationship (4):

There is a relationship between project management practices and PVs during closing phase.

R.	Areas of Testing	Relationships	practices Qs	Public Values Qs
4	**Practices vs. PVs during closing phase.**	*There is no relationship between project management practices and PVs during closing phase.*	**25, 26, 28, 31,34, 35**	**49, 50, 52, 54**
		There is a relationship between project management practices and PVs during closing phase.		

Table -53- Relationship (4) Practices during closing phase vs. PVs

Figure -19- Relationship (4)

	Practices Qs
25	*Completing the project within planned budget is considered as a success factor.*
26	*Achieving expected quality is a measure of success more than budget & timeframe.*
28	*Team members' evaluation of the project is considered in the final evaluation process.*
31	*Senior management is not always strict about delay regarding the expected date of project completion.*
34	*There is an incentive system for the excellent performance of PMs and team members.*
35	*Failure of project affects annual appraisal related to Project Management.*

	Public Values Qs
49	*Public satisfaction of final results of the projects is always included as a final element of project evaluation system.*
50	*Information is distributed after completing project to other staff members to share knowledge.*
52	*Social media and electronic communication are used to reach a larger sample of the target groups for feedback of provided services.*
54	*The organization is transparent when delivering the results of programs and projects.*

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15.102[a]	9	.088
Likelihood Ratio	15.557	9	.077
Linear-by-Linear Association	10.149	1	.001
N of Valid Cases	93		

a. 8 cells (50.0%) have expected count less than 5. The minimum expected count is .13.

Table -54- Relationship (4) Chi-Square Tests

Table (54) shows Asymp. Sig. = .088, as .086 is larger than α=0.05, which means that there is no relation between project management practices (Q25, 26, 28, 31, 34, 35) and PVs (Q49, 50, 52, and 54). This result indicates that the relationship is very weak between practices during closing stage and PVs.

Symmetric Measures					
		Value	**Asymp. Std. Error[a]**	**Approx. T[b]**	**Approx. Sig.**
Ordinal by Ordinal	Gamma	.490	.122	3.615	.000
	Spearman Correlation	.339	.091	3.440	.001[c]
Interval by Interval	**Pearson's R**	**.332**	.087	3.359	.001[c]
N of Valid Cases		93			

Table -55- Practices during Closing Phase vs. PVs. Relationship (4).

The correlation between project management practices (25, 26, 28, 31, 34, 35) and PVs (Q49, 50, 52, 54), is .332. This shows that the correlation between the project management practices and PVs is low to moderate.

Project management processes vs. PVs

Relationship (5):

There is a relationship between the processes in the initiating and planning phase and the Public Values.

R.	Areas of Testing	Relationships	practices Qs	Public Values Qs
5	**Processes vs. PVs during initiating & planning phase.**	*There is no relationship between project management processes and PVs during initiating & planning phase.*	**36, 37,**	**47, 48, 56, 57**
		There is a relationship between project management processes and PVs during initiating & planning phase.		

Table -56- Relationship (5) Processes during initiating & planning phase

	Processes Qs
36	*There is a plan for the project with all the deliverables, dates of activities, tasks, budget…. etc.*
37	*There is a WBS with all activities of the project in hieratical order.*

	Public Values Qs
47	*Senior management seeks formal approval of political parties before initiating project.*
48	*Employees realize the strategic goals that the projects are built upon.*
56	*The organization promotes values of equality and rights and rights protection of target groups through provided services.*
57	*Senior management makes sure to increase productivity and competition with other institutions to provide better services.*

Figure -20- Relationship (5)

Relationship (5, A):

There is a relationship between Processes during the initiating & planning phase and PVs.

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	27.723[a]	12	.006
Likelihood Ratio	24.221	12	.019
Linear-by-Linear Association	15.890	1	.000
N of Valid Cases	93		

a. 14 cells (70.0%) have expected count less than 5. The minimum expected count is .02.

Table -57- Relationship (5A) Chi-Square Tests

Table (57) shows Asymp. Sig. = .006, as .006 is smaller than α=0.05, which means that there is a relation between PMP (Q36, 37) and PVs (Q47, 48, 56, 57). There is a relationship between processes and PVs during the initiating and planning phase.

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Ordinal by Ordinal	Gamma	.559	.124	3.824	.000
	Spearman Correlation	.389	.095	4.023	.000[c]
Interval by Interval	Pearson's R	.416	.080	4.359	.000[c]
N of Valid Cases		93			

Table -58- Processes during initiating & planning vs. PVs. relationship (5a).

The correlation between project management processes (36, 37) and PVs (Q47, 48, 56, 57), is .416. This shows that the correlation between the PMP and PVs is moderate.

Relationship (5, B)

There is a relationship between the process of preparing a project plan during the initiating & planning phase and PVs.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18.758[a]	12	.095
Likelihood Ratio	19.767	12	.072
Linear-by-Linear Association	12.709	1	.000
N of Valid Cases	93		

a. 14 cells (70.0%) have expected count less than 5. The minimum expected count is .02.

Table -59- Relationship (5, B) Chi-Square Tests

Table (59) shows Asymp. Sig. = .095, as .095 is larger than α=0.05, which means that there is no relation between PMP (Q36) and PVs (Q47, 48, 56, 57). This reveals that the plan does not reflect PVs or they are not considered in the processes during the initiating and planning phase.

Symmetric Measures					
		Value	**Asymp. Std. Error[a]**	**Approx. T[b]**	**Approx. Sig.**
Ordinal by Ordinal	Gamma	.522	.115	3.870	.000
	Spearman Correlation	.357	.087	3.646	.000[c]
Interval by Interval	**Pearson's R**	**.372**	.072	3.819	.000[c]
N of Valid Cases		93			

Table -60- Processes during initiating & planning vs. PVs. relationship (5b).

The correlation between project management processes (36) and PVs (Q47, 48, 56, 57), is .372. This shows that the correlation between the PMP and PVs is low to moderate.

Relationship (6):

There is a relationship between processes during the executing phase and cooperation among governmental institutions.

R.	Areas of Testing	Relationships	processes Qs	Public Values Qs
6	**Processes vs. PVs during executing phase.**	*There is no relationship between PMP and PVs during executing phase.*	**38, 39, 40**	**53**
		There is a relationship between PMP and PVs during executing phase.		

Table -61- Relationship (5) Processes during executing phase vs. PVs.

	Processes Qs			Public Values Qs
38	*There is a detailed description of all project phases with an explanation of how and when to apply measurement instruments.*	→	**53**	*There is a cooperation and exchange of experiences and information among governmental institutions during the project implementation.*
39	*Tools are used to identify the timeline of the projects.*			
40	*Resource are planned to determine the types and size of human & physical resources required for each project activities.*			

Figure -21- Relationship (6)

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.852[a]	12	.250
Likelihood Ratio	16.842	12	.156
Linear-by-Linear Association	3.442	1	.064
N of Valid Cases	93		

a. 13 cells (65.0%) have expected count less than 5. The minimum expected count is .09.

Table -62- Relationship (6) Chi-Square Tests

Table (62) shows Asymp. Sig. = .250, as .250 is larger than α=0.05, which means that there is no relationship between PMP (Q38, 39, 40) and PVs (Q53). Table (60) shows that the correlation between processes & PVs is very low (.193). This shows that planned resources and tools are not considering the cooperation with other governmental organizations during the executing phase.

Symmetric Measures					
		Value	**Asymp. Std. Error[a]**	**Approx. T[b]**	**Approx. Sig.**
Ordinal by Ordinal	Gamma	.262	.123	2.074	.038
	Spearman Correlation	.205	.099	2.000	.048[c]
Interval by Interval	**Pearson's R**	**.193**	.093	1.881	.063[c]
N of Valid Cases		93			

Table -63- Processes during execution phase vs. PVs. relationship (6).

Relationship (7):

There is a relationship between processes during monitoring & controlling phase and PVs.

R.	Areas of Testing	Relationships	processes Qs	Public Values Qs
7	**Processes Vs. PVs during monitoring & controlling phase.**	*There is no relationship between project management practices and PVs during monitoring & controlling phase.*	**41, 42, 43, 44, 45, 46**	**55**
		There is a relationship between project management practices and PVs during monitoring & controlling phase.		

Table -64- Relationship (7) Processes during monitoring & controlling phase vs. PVs

	Processes Qs
41	*There is a financial budget distributed over the timeline of the project.*
42	*Quality standards, key performance indicators & checklists & definitions are provided to facilitate evaluating projects results.*
43	*There is a system to manage communication that includes project updates and news with an explanation of information collection and storage processes.*
44	*There is explanation of how to submit performance reports.*
45	*There is a plan to manage risks/challenges.*
46	*There is a PMO to assist PMs during project processes.*

	Public Values Qs
55	*The organization promotes values of the staff to deal efficiently and fairly with the target groups.*

Figure -22- Relationship (7)

Relationship (7, A):

There is a relationship between processes during the monitoring and controlling phase and promoting values of staff to deal efficiently and fairly with target groups.

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	30.899[a]	9	.000
Likelihood Ratio	27.927	9	.001
Linear-by-Linear Association	17.727	1	.000
N of Valid Cases	93		

a. 9 cells (56.2%) have expected count less than 5. The minimum expected count is .39.

Table -65- Relationship (7A) Chi-Square Tests

Table (65) shows Asymp. Sig. = .000, as .000 is less than α=0.05, which means that there is a relation between PMP (Q41, 42, 43, 44, 45, and 46) and PVs (Q55).

Symmetric Measures					
		Value	**Asymp. Std. Error[a]**	**Approx. T[b]**	**Approx. Sig.**
Ordinal by Ordinal	Gamma	.607	.103	4.748	.000
	Spearman Correlation	.454	.087	4.858	.000[c]
Interval by Interval	**Pearson's R**	**.439**	.084	4.660	.000[c]
N of Valid Cases		93			

Table -66- Processes during monitoring & controlling phase vs. PVs. relationship (7A)

The correlation between PMP (41, 42, 43, 44, 45, 46) and PVs (Q55), is .439. This shows that the correlation between the PMP and PVs is moderate.

Relationship (7, B)

There is a relationship between processes during the monitoring & controlling phase (standards, key performance indicators, checklists, definitions for evaluating results) and promoting values of staff to deal efficiently and fairly with target groups.

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16.161[a]	12	.184
Likelihood Ratio	17.989	12	.116
Linear-by-Linear Association	7.456	1	.006
N of Valid Cases	93		

a. 15 cells (75.0%) have expected count less than 5. The minimum expected count is .06.

Table -67- Relationship (7, B) Chi-Square Tests

Table (67) shows Asymp. Sig. = .184, as .184 is larger than α=0.05, which means that there is no relation between PMP (Q42) and PVs (Q55). Dealing with the target group is of high importance in public projects. This result indicates that dealing fairly and efficiently with target groups is not something that is focused on when setting the project KPIs or standards, or during evaluation of the final report.

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Ordinal by Ordinal	Gamma	.380	.126	2.742	.006
	Spearman Correlation	.273	.096	2.711	.008[c]
Interval by Interval	Pearson's R	.285	.092	2.833	.006[c]
N of Valid Cases		93			

Table -68- Processes during monitoring & controlling phase vs. PVs. relationship (7B)

The correlation between PMP (42) and PVs (Q55), is .285. This shows that the correlation between the PMP and PVs is low to moderate.

Relationship (7, C)

There is a relationship between processes during the monitoring & controlling phase (communication system of updates and news) and promoting values of staff to deal efficiently and fairly with target groups.

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.417[a]	12	.275
Likelihood Ratio	14.951	12	.244
Linear-by-Linear Association	6.211	1	.013
N of Valid Cases	93		

a. 14 cells (70.0%) have expected count less than 5. The minimum expected count is .13.

Table -69- Relationship (7c) Chi-Square Tests

Table (69) shows Asymp. Sig. = .275, as .275 is larger than α=0.05, which means that there is no relation between PMP (Q43) and PVs (Q55). This also proves that dealing with the public fairly and efficiently is not considered when communicating and storing information within the final report. The correlation between these PMP and the PV of promoting values of staff to deal efficiently and fairly with target groups, is .260. This shows that the correlation between the PMP and PVs is low.

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Ordinal by Ordinal	Gamma	.370	.130	2.677	.007
	Spearman Correlation	.274	.099	2.718	.008[c]
Interval by Interval	Pearson's R	.260	.095	2.567	.012[c]
N of Valid Cases		93			

Table -70- PMP vs. PVs. relationship (7c).

Relationship (7, D):

There is a relationship between processes during the monitoring & controlling phase (PMO office that assists PMs during projects) and promoting values of staff to deal efficiently and fairly with target groups.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.486[a]	12	.132
Likelihood Ratio	17.493	12	.132
Linear-by-Linear Association	8.614	1	.003
N of Valid Cases	93		

a. 12 cells (60.0%) have expected count less than 5. The minimum expected count is .06.

Table -71- Relationship (7D) Chi-Square Tests

Table (71) shows Asymp. Sig. = .132, as .132 is larger than α=0.05, which means that there is no relation between PMP (Q46) and PVs (Q55). This is reflected by PMOs' lack of focus on ensuring that target groups are fairly and efficiently dealt with.

Symmetric Measures					
		Value	**Asymp. Std. Error[a]**	**Approx. T[b]**	**Approx. Sig.**
Ordinal by Ordinal	Gamma	.411	.116	3.350	.001
	Spearman Correlation	.328	.095	3.315	.001[c]
Interval by Interval	**Pearson's R**	**.306**	.092	3.066	.003[c]
N of Valid Cases		93			

Table -72- Processes during monitoring & controlling vs. PVs. relationship (7d)

The correlation between PMP (46) and PVs (Q55), is .306. This shows that the correlation between the PMP and PVs is low to moderate.

- ***Correlation Analysis***

Correlational analyses are used to examine the relationship between PMPPs and PVs in the public sector in Qatar. To give a more accurate result among the variables, these are tested from two different perspectives: the project's life cycle and CSFs. Items that present phases or CSFs were aggregated to investigate the overall relationships between variables. For this section all responses were considered, since it was the first step to figure the general relations among variables.

	Project Management Practices & Processes				
Project Phases	***Initiating & Planning***	***Executing***	***Monitoring & Controlling***	***Closing***	
Public Values	.888**	-.014	-.002	.896**	Pearson correlation
	.000	.891	.982	.000	Sig. (2-tailed)
	118	93	93	118	N

Table -73- Correlation between PMPPs & PVs through project life cycle

- ***Through the project lifecycle.***

Table 73 shows the correlation between PVs and PMPPs during all project phases. This table shows that public projects are correlated more strongly with PVs within the initiation & planning phase, and closing phase than the executing phase and monitoring & controlling phase. During the initiating & planning phase, the results show a significantly stronger positive relationship between PMPPs & PVs with (.888**) value. A similar result is shown during the closing phase with (.896**)

On the other hand, during the execution phase and the monitoring & controlling phase, there was no significance found between the PMPPs and PVs with (.891) & (.982), and a strong negative correlation was found between the variables (-.014) & (-.002). This indicates the lack of PVs being applied during these phases.

	Critical Success Factors									
	Goals & Objectives	*Performance Monitoring*	*Decision Makers*	*Transformations*	*Communications*	*Environment*	*Boundaries*	*Resources*	*Continuity*	
PMPPs & PVs	.061	.937**	.836**	.364**	.273**	.238**	.192	.936**	.628**	Pearson Correlation
	.514	.000	.000	.000	.003	.020	.064	.000	.000	Sig. (2-tailed)
	118	118	118	118	118	95	94	118	118	N

Table -74- Correlation between PMPPs & PVs in relation to CSFs

- ***According to CSFs***

The nine CSFs, as mentioned earlier, are: *Goals & Objectives, Performance Monitoring, Decision Makers, Transformations, Communications, Environment, Boundaries, Resources, and Continuity*. The correlation is tested between PMPPs and PVs according to these CSFs. Significance is found among all factors, as illustrated in table (74), except for goals & objectives (.514) and boundaries (.064). A strong correlation is found according to performance monitoring (.937**), decision makers (.836**), and resources (.936**). A moderate correlation is found according to factor of Continuity (.628**). A low correlation is found among other factors like transformations (.364**), communications (.273**), and environment (.238**). Both factors goals & objectives and boundaries are of weak correlation with (.061) and (.192).

Considering these findings in general, there is an inconsistency between the outcomes studied through the project life cycle and those tested according to project CSFs. First, there is strong evidence of the presence of PVs during the initiating & planning phase and the closing phase, while there was a weak or minimal evidence of them in terms of objectives & goals and boundaries CSFs. Secondly, the performance monitoring CSF provides high evidence of PVs, which has a highly negative relation during the project life cycle. Thus, Pearson correlation is used in the second stage of data analysis to investigate which practices or processes are providing weak, negative, or no correlation results. Accordingly, the items of the questionnaire are used for these specific findings without aggregation to give specific correlation values.

If those findings are compared with the outcomes of the tested relationships discussed earlier, a summary of the results can be given below:

1. PMPPs during the initiating & planning phase and PVs were found to have an unstable relationship which varied in strength according to the type of practice or process.
    - Getting political approval is not considered within PMPPs.
    - PVs are not considered within the project plan which contains all deliverables.
    - There is no connection between having a standardized project management system for all projects and realizing PVs.
2. Both the executing phase and the monitoring & controlling phase do not show a relationship between PMPPs and PVs.
    - The value of dealing fairly and efficiently with the target audience is nearly non-existent during this phase.
    - Cooperation among governmental organizations was found to be absent within PMPPs during this phase.
3. The overall analysis of practices & processes during the closing phase shows the existence of PVs, but there is not public participation during the final stage of the project.

PVs / PMPPs	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54	Q55	Q56	Q57	
Q23 A Practice	-005	.312	.303	.258	.431	.093	.244	.285	.418	.439	.439	Pearson correlation
	.960	.002	.003	.012	.000	.374	.018	.006	.000	.000	.000	Sig.(2-tailed)
Q36 A Process	.045	.404	.339	.335	.432	.269	.184	.343	.400	.407	.370	Pearson correlation
	.666	.000	.001	.000	.000	.009	.078	.001	.000	.000	.000	Sig.(2-tailed)
Q40 A process	.190	.403	.430	.413	.357	.425	.245	.419	.386	.361	.422	Pearson correlation
	.067	.000	.000	.000	.000	.000	.018	.000	.000	.000	.000	Sig.(2-tailed)

Table -75- Correlation between PMPPs & PVs in relation to Goals & Objectives and Boundaries

CSFs in table (75) explain the individual relations between each PMPPs and PVs in order to reveal reasons behind low correlation (.061). It is noticeable that PV (Q47), which

relates to a senior manager seeking official approval from political authorities before initiating any public projects, is of low correlation and no significance with PMPPs of goals & objectives and boundaries CSFs. These PMPPs are choosing the relevant PMP according to project goals, existing project plan, and detailed resource plans. (Q52) of PV relates to communicating with target groups for feedback on the provided services and projects through social media. This was found to have a low correlation (.093) and no significance with the PMP of choosing practices according to project goals. Finally, (Q53) of PV discusses governmental cooperation and experience exchange among institutions. This had a low correlation (.184) and no significance (.078) with the existence of the project plan.

As shown in Table (76), low correlation is found between PVs and PMPPs during the executing phase of the public project. The PMP (Q39) discussed using Project Management tools to identify the project timeline and found no significance and weak correlation with six PV variables: SMs taking political approval before initiating projects; employees realizing strategic goals; information sharing among staff members; cooperation among governmental organizations; equality & rights protection; and increasing productivity among SMs. PMP (Q29) refers to having continuous meetings between team members to discuss project progress during the implementation phase, which was found to have a weak correlation and no significance with five PVs: gaining political approval, sharing information among staff members, promoting efficiency, fairness, equality, and rights protection values, and increase productivity among senior management. PMP (Q24) focuses on the impact of current Project Management tools on timely project completion. This is also of a low correlation and no significance with two PVs, gaining political approval, and cooperation and exchange of experience among governmental institutions, during the project implementation phase.

Table (77) shows that all PVs have some significance with PMPPs during the monitoring & controlling phase except gaining political approval and cooperation among governmental organizations. The first PV has a low relation with three PMPPs, namely explaining submitting performance reports, risk management plan, and PMO existence. The PV of governmental information exchange was found to be of no significance with two PMPPs: explaining submitting performance reports, and PMO existence.

PVs / PMPPs	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54	Q55	Q56	Q57	
Q24 A Practice	.157	.275	.435	.252	.497	.228	.187	.450	.361	.493	.440	Pearson correlation
	.132	.008	.000	.015	.000	.028	.073	.000	.000	.000	.000	Sig.(2-tailed)
Q29 A Practice	.125	.297	.308	.115	.215	.256	.168	.123	.147	.194	.074	Pearson correlation
	.231	.004	.003	.274	.038	.013	.107	.239	.160	.063	.483	Sig.(2-tailed)
Q38 A process	.178	.388	.242	.240	.427	.394	.241	.301	.301	.400	.477	Pearson correlation
	.088	.000	.019	.021	.000	.000	.000	.003	.003	.000	.000	Sig.(2-tailed)
Q39 A process	.029	.183	.264	.180	.273	.241	.000	.166	.215	.182	.186	Pearson correlation
	.784	.078	.010	.084	.008	.020	.997	.113	.039	.082	.075	Sig.(2-tailed)
Q40 A process	.190	.403	.430	.413	.357	.425	.245	.419	.386	.361	.422	Pearson correlation
	.067	.000	.000	.000	.000	.000	.018	.000	.000	.000	.000	Sig.(2-tailed)

Table -76- Correlation between PMPPs & PVs through the executing phase

PVs / PMPPs	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54	Q55	Q56	Q57	
Q28 A Practice	.313	.321	.356	.220	.459	.396	.323	.323	.218	.227	.258	Pearson correlation
	.002	.002	.000	.034	.000	.000	.025	.002	.036	.007	.012	Sig.(2-tailed)
Q41 A Process	.214	.387	.247	.396	.361	.463	.218	.369	.376	.443	.336	Pearson correlation
	.040	.000	.017	.000	.000	.000	.036	.000	.000	.000	.001	Sig.(2-tailed)
Q42 A process	.347	.582	.336	.398	.402	.560	.494	.509	.285	.393	.475	Pearson correlation
	.001	.000	.001	.000	.000	.000	.000	.000	.006	.000	.000	Sig.(2-tailed)
Q43 A process	.268	.531	.334	.402	.365	.512	.290	.422	.260	.218	.282	Pearson correlation
	.009	.000	.001	.000	.000	.000	.005	.000	.012	.036	.006	Sig.(2-tailed)
Q44 A process	.163	.467	.264	.232	.430	.313	.147	.242	.342	.426	.388	Pearson correlation
	.118	.000	.010	.026	.000	.002	.159	.019	.001	.000	.000	Sig.(2-tailed)
Q45 A process	.174	.527	.368	.482	.483	.393	.227	.500	.457	.434	.219	Pearson correlation
	.095	.000	.000	.000	.000	.000	.029	.000	.000	.000	.035	Sig.(2-tailed)
Q46 A process	.169	.285	.371	.378	.245	.376	.199	.336	.306	.291	.232	Pearson correlation
	.106	.006	.000	.000	.018	.000	.056	.001	.003	.005	.025	Sig.(2-tailed)

Table -77- Correlation between PMPPs & PVs through monitoring and controlling phase

6.4 Summary

Chapter six discusses the results of the study during the exploratory phase. The outcomes of the unstructured interviews with experts and decision makers and the questionnaires help to design the proposed assessment tool. Results of the questionnaires refer to the characteristics of the public sector, current PMPPs, the existence of PVs, and the relationships between PMPPs and PVs.

Chapter 7: **Study Results-*Semi-Structured Interviews***

7.1 Introduction

This chapter focuses on the last stage of the exploratory phase in discussing the procedure and the outcomes of the semi-structured interviews. Interviewees' opinions about different topics are displayed and discussed. Interview questions concerned project goals and objectives in relation to QNV2030, TMS, PMMs and tools, CSFs and success criteria, and challenges faced by PMs.

Towards the end of the chapter, there is a summary of the questionnaire and interview findings, where outcomes are highlighted to set out all of the factors related to designing the proposed tool.

7.2 Semi-structured interviews – *Qualitative Data Analysis*

- ***Qualitative Data Collection and Sample.***

Interviews were chosen to support the findings of the questionnaire and to obtain detailed information about the challenges faced by PMs and what they consider to be the most suitable methods to overcome these in the public sector today. Four different governmental organizations or ministries were chosen in order to provide a broader set of interview results. Ministries in table (78) vary in terms of the year of their establishment, for example. The third governmental institution (Gov.3) is the oldest among the four organizations and was initiated in 2002. The second organization (Gov.2) was established in 2006. The first organization (Gov.1) was initiated in 2009 and the latest organization (Gov.4) started working in 2013. In 2015, the Emir of Qatar ordered the reshaping of state ministries. The process targeted changing the names of some ministries or merging ministries within a similar field. For the current sample, (Gov.1) and (Gov.3) underwent changes to their titles and top management in 2015. One ministry being scrutinised (Gov.4) merged with another two ministries leaving (Gov.2) as the only organization to preserve its core business without dramatic changes.

Semi-structured interviews were conducted in order to address the shortage of details yielded by the researcher from the questionnaire. Here, attention is largely paid to project goals and objectives, TMS, PMMs, evaluation tools, challenges, CSFs and success criteria.

Interviewees' Codes	Nationality	Job Titles	Gov. Organization Codes	Domain of Governmental Work
TM.1	Non-Qatari	Top Manager/Director	Gov.1	Health
TM.2	Non-Qatari	Top Manager/Director	Gov.2	Monitoring & Planning
TM.3	Non-Qatari	Top Manager/Director	Gov.3	Education
TM.4	Qatari	Top Manager/Director	Gov.3	Education
Exp.1	Non-Qatari	Expert/Advisor	Gov.2	Monitoring & Planning
Exp.2	Non-Qatari	Expert/Consultant	Gov.2	Monitoring & Planning
Exp.3	Non-Qatari	Expert/Consultant	Gov.4	Administration
PM.1	Qatari	Project Manager	Gov.3	Education
PM.2	Qatari	Project Manager	Gov.3	Education
PM.3	Qatari	Project Manager	Gov.3	Education
PM.4	Non-Qatari	Project Manager	Gov.3	Education
PM.5	Non-Qatari	Project Manager	Gov.1	Health
PM.6	Non-Qatari	Project Manager	Gov.1	Health
PM.7	Non-Qatari	Project Manager	Gov.1	Health

Table -78- Interviewees' Profile- semi-structured interviews

7.3 Protocol for Qualitative Interview

The first stage of conducting interviews entailed contacting ministries and governmental organizations for official approval for PMs to be interviewed. During this phase, it was noticed that there was some misunderstanding in most of the ministries regarding the role of a PM, whose job title was not explicitly listed. Intensive discussions with PMOs in these ministries led to an agreement on the operational definition of the target sample. The definition was that a PM is anyone who is responsible for running a project in the public sector.

In some ministries, for example, a consultant is a PM who is responsible for conducting a project that aims to produce an operational plan for each department and requires training of team members. Ministries were asked to provide an equal number of both Qatari and non-Qatari PMs for interviews, but this was the sample provided. *The interview questions are included in Appendix 3.*

The questions that asked during the semi-structured interviews are:

1. What is the source of project goals and objectives?
2. Describe the process of communicating with your top management?
3. Which methodology do you use, PMBOK or PRINCE2?
4. Which current evaluation tools do you use to measure project success?
5. What kind of challenges do project managers face in public sector?
6. What are the critical success factors and success criteria that are used to measure projects success?

7.4 Interview Results

The analysis here involves in-depth explanations of the results in terms of job title and area of experience. The sample is divided into three categories: top managers, experts, and PMs. From Table (75), there are four TMs from three ministries, three experts from two ministries, and seven PMs from two ministries. Among 11 subjects whose job title was PM, only four had previous experience or knowledge of project management. Questions concerned setting project goals and objectives, the level of the top managers' support, PMM, current project evaluation tools, challenges for PMs, and CSFs and success criteria.

- **Project Goals & Objectives:**

The first question was about the process of setting project objectives and goals, and the sources thereof. All TMs agreed that the main source of objectives and goals for projects was the QNV 2030 and determined by the QNPS 2011-2016. All the interviewees were aware of their roles according to their organization's scope of work.

> *"There is a critical issue here. My organization is responsible of monitoring 14 different ministries and organizations and evaluating their performance.*" (**TM.2**)

Three months after this interview, 14 ministries were reduced to eight in line with budget cuts and to prevent duplication in the public sector. This caused a delay in evaluating the implementation of QNV 2030 among most ministries, when the new NSP 2017-2021 was set to be launched.

Experts gave specific and short answers to this question such as: *'It is QNV 2030!*' Meanwhile, all PMs provided the same answer that the source is the QNSP 2011-2016. Below are some interesting contributions arising from this question:

> *"I am thinking of projects as action researches, in which I must find solutions for current problems.*" **(PM.4)**

> *"Goals are derived from QNV 2030, which is a very ambitious vision and I make sure that my team is familiar with its components through regular communication.*" **(PM.5)**

Most of the sample confirmed that their employees are familiar with the vision or strategy that motivates project goals and objectives.

- **Top Management Support:**

The second question concerned the level of TMs' support. TMs indicated that support from their ministers is fundamental to the accomplishment of their assigned tasks. Top management interest and support is shown through continuous meetings, regular reports, and teamwork. One interviewee stated:

> *"It is very important to have a homogenous work place to guarantee project success. The long period that the Minister spent with his team increased the possibilities of success*." **(TM.1)**

Experts share a common opinion that there is a need for more meetings between TMs and team members, which can help to instil more enthusiasm and belief in the importance of the projects of which they are part. One interviewee stated:

> *"The problem with governmental regulations is that top managers focus on what they accomplish as individual efforts rather than final outcomes*." **(Exp.1)**

Many of the PMs added that they agree that support is provided when needed and asked for. PMs have annual meetings in which visions, objectives, and goals are discussed in detail. It is the PM's role to transfer details of targets to their team members. PMs from (Gov.1) reported agreement, stability, and satisfaction regarding the communication procedure with TMs. Some particular responses on this matter are presented below:

> *"The project was given to me as it is. I did my best to collect data from related resources. It takes forever to wait for top manager's approval and to get more information. Initial information is not enough to start with*." **(PM.1)**

> *"The strength in communication is because he is running both micro and macro management, like auditing the reports and following up achievements. The weakness comes from middle managers who lack in terms of communication and belief about the effect of these communication processes*." **(PM.6)**

- **Project management methods:**

One question was asked to figure out which methods are more popular in the public sector in Qatar, namely PMBOK® or PRINCE2 or a combination of both. TMs all agreed that simple and light tools are used like emails, Gantt charts, milestones, and weekly or monthly reports. Some of their answers are displayed below:

"*Public projects don't need complicated tools, simple tools are enough*." **(TM.2)**

"There was a long training workshop dedicated annually to train PMs to experience PMMs. The reason behind such a decision is that training consumes their time and affects delivering the targets." **(TM.4)**

Experts generally shared the same point of view and added that almost all ministries have PMOs, which are responsible for evaluating and monitoring project performance and assessing PMs with the necessary tools and techniques to deliver the expected outcomes. However, this is not effective in all ministries, as outlined in the responses below:

"We do not have flexibility in choosing whatever methods we like or apply. There are specific templates for evaluating projects that we cannot change." **(Exp.1)**

"PMs lack knowledge in project management in general. Therefore, we only ask them for basic information to finish annual or monthly reports." **(Exp.3)**

PMs also had some interesting comments about the methodologies they are using. Simple tools are used like emails, Word documents, and Excel sheets. PMs from Gov.1 lead in terms of knowledge and experience of PMPPs. All of them agreed about focusing on time, cost, and performance as focal points for using project management methods. Below are some of the responses to this particular question:

"My team members need training in project management and in English language to be able to use these techniques."

(PM.6)

"Time is the most important element to guarantee the project success." **(PM.7)**

- **Evaluation tools for Public Projects**

The third question was about the types of evaluation tools, which are used to determine project success. TMs were more concerned about complying with the time constraints, which they viewed as the most important marker of project success. Some of the interviewees' responses are given below:

> *"It comes down to work progress. We are using Excel, Word, and Project Management Software. I am happy that 70% of the outputs are delivered. I hope that the project will be accomplished by the end of 2016*." **(TM.1)**

> *"There is only the annual evaluation form of monitoring the employees' performance*." **(TM.2)**

> *"In order to judge project success, we conduct surveys to measure the public satisfaction with the services we are providing.*" **(TM.3)**

> *"We are not concerned with the cost factor since it is taken care of by the Minister's office*." **(TM.4)**

Many of the experts expressed dissatisfaction with the tools that are used to evaluate projects. They generally agreed that TMs rely on annual performance reports that are sent by PMs themselves.

PMs from (Gov.1) demonstrated good knowledge of evaluation tools and they share a specific role in enhancing the performance of public projects in their ministry. Among their answers, they mentioned checklists and indicators of cost, time, and quality. Other PMs stated that the only evaluation tools they encounter are annual reports. Therefore, their performance is evaluated once a year or quarterly without using a specific evaluation tool for each project. Accordingly, there are no tools for checking the progress of the project itself.

> "*From my point of view, it is the quality factor that should be evaluated more than time or cost*." **(PM.7)**

> *"We are using quality measurement and surveys to evaluate the project performance*." **(PM.4)**

- **Challenges facing project management in public sector**

TMs' responses to the question about the kinds of challenges they are facing within their jobs varied according to the domain in which they worked. For example, TM.1 was more concerned about the responsibility and difficulty to meet targets which are related to changing public culture rather than fast and rigid outcomes. TM.2 declared that there is a lack of management information systems to share knowledge and progress with team members. TM.3 was more worried about budget constraints which affected the assigning of tasks and the achievement of high-quality outcomes. TM.4 stated:

> *"The communication system with PMs is weak because of their fear of auditing and questioning. The communication channels are not followed respectfully."* **(TM.4)**

Exp.1 identified the lack of TMS as the most critical challenge facing PMs in the public sector. Exp.2 said that cultural factors affected routine work and there was a lack of KS among team members. Exp.3 declared the following:

> *"They do not have any experience in reporting or planning projects. They resist change. The ministry enrols them with a training workshop to enhance their Project Management competences, but they don't use tools or techniques they are trained on, so we shift to an hour weekly to observe change and progress.*" **(Exp.3)**

> *"We have a communication plan, but no-one is encouraged to commit to it. I think the problem is that they do not realize the importance of planning and communication*." **(Exp.3)**

Meanwhile, responding to the same question regarding the challenges they are facing, PMs outlined a need for more communication and sufficient financial resources. Some of the challenges they reported are outlined below:

> *"The main challenge is the lack of information shared by top management*." **(PM.1)**

"The level of cooperation from other public organizations to facilitate our job." **(PM.3)**

"It is always the budget." **(PM.4)**

"For me it is the staff leave days in comparison between Qataris & non-Qataris, working days compared to the private sector, and transferring responsibilities from consultants to PMs, since they are the ones carrying the project from initiation to evaluation phase." **(PM.5)**

"We cannot rely on people's enthusiasm to work and accomplish targets while salaries are less than satisfactory. If we do not pay attention to this issue, we will keep losing experienced and trained people." **(PM.6)**

"It's the knowledge sharing system and the lack of learning from previous lessons." **(PM.7)**

- **CSFs and Success Criteria**

When asked about the CSFs and success criteria that are used to determine project success, TMs refer to meeting time, fulfilling performance milestones, and annual reports to measure success. Other TMs gave more detailed explanations, listed below:

"CSFs are used only for one strategic goal's implementation. It is difficult to measure each project according to specific criteria." **(TM.2)**

"There is an external committee to monitor and evaluate performance" **(TM.3)**

From the experts' perspective, if a project is carried out within the set parameters of time, budget, and quality, then it can be declared a success.

Many of the PMs could not differentiate between their answers to the previous question about the evaluation tools used to determine project success or failure. However, the PMs from Gov.1 went into detail to answer this question:

"Time is the most critical factor to determine project success, because projects can fail when consuming long periods of time in planning and recruiting senior managers. Realistic planning is essential to cope with urgent issues." **(PM.5)**

"There are no specific CSFs in the organization. It is up to the PM to choose suitable CSFs. For me, I like to apply international best practices." **(PM.6)**

"Projects are meant to achieve the organization's goals and objectives. The most important factor is to meet the organizational goals." **(PM.7)**

It appears that the factor of time is a concern for the whole sample**.** Communication is the next most commonly cited factor, expressed in terms of sharing knowledge or reaching out effectively to PMs to make sure that lessons learned are adopted to set risks and challenges and to think of suitable methods. Effective communication is also demanded from TMs to share concerns and to convey the importance of projects to achieve organizational goals. Planning and meeting quality targets were the least important factors, with only 20% of the sample expressing concern about these.

7.5 General Discussion of the Findings

Project management is not a '*crossroads discipline*' as described by Garel (2013). It has its own features, ideas, theories and models. It consists of a certain philosophy in thinking and application. Ramazani and Jergeas (2015) stated that the PMI studied the increasing demands of PMs' roles in 2013, with 15.7 million new roles for PMs to be added during the period 2010-2020. Findings from qualitative and quantitative methods are relied upon by the researcher in developing the evaluation tool in the next chapter.

Findings from questionnaires and interviews are displayed in terms of types and resources. Findings from chapters 6 and 7 are summarized below to highlight the most important outcomes that will influence the proposed tool.

- **Quantitative Findings:**

These findings are derived from the questionnaire results and classified into demographic information, project characteristics, TMS, PVs creation, and PMPPs.

Demographic Information

1. Job titles are misleading when clarifying the job requirements of PMs in the public sector in Qatar. TMs, directors, heads of departments, experts, and specialists can all have similar tasks to those conducted by PMs.
2. More than half of the sample are aged above 40 and nearly 75% of the sample hold PhD or master's degrees.
3. Qataris dominate the sample (77%) and nearly 67% of them have more than 12 years of experience as PMs.

Project Characteristics

1. In the public sector, most projects are of administrative or IT nature and most of these projects have less than 10 employees as team members.
2. The time frame for most projects is from 8 months to a year or more.
3. The majority of the sample (approximately 63%) declared that training occurs either at the beginning of, or during, the project life cycle.
4. 64% of PMs declare that project is considered closed either when the final report is discussed and approved or when it has already been sent to TMs.
5. The most used project management tools among the sample were those related to time and order techniques like project schedule and WBS. Cost-related tools were least used. This highlights the importance of the time factor for PMs included in the sample. This aligns with the findings of lamutu, Olateju, and Abul-azeez, (2011) where it was found that the Gantt chart was the most used method among a sample of public organizations in Nigeria (64%), followed by cost benefit analysis (58%).

Top Management Support

1. PMs generally agreed that their TMs take their views and comments into account during project implementation.

2. The majority of PMs agreed that their TMs provide training, facilitate hiring experts, and develop project management practices because they recognize how important they are to the organization's performance.
3. When they were asked about the tolerance of their TMs to delay in delivering projects, nearly half of the sample said they were not tolerant which shows the importance of the time factor to TMs.
4. Neutral responses increased when asked whether TMs work to increase productivity and external competition. There were mixed responses when asked if TMs need to obtain official approval from political authorities before initiating projects.

Public Values Creation

1. The majority stated that regular meetings took place between team members during initiating and implementation phases.
2. Most of the sample agreed that there is transparency in delivering outcomes, that employees understand project goals and that public satisfaction is considered as the final element of the project evaluation process.
3. Again, neutral answers were noticeable for five different questions, which is more obvious in contrast to the other categories of PMPPs. Some respondents expressed neutral answers regarding the level of cooperation among public organizations, gaining public satisfaction and feedback through social media, sharing knowledge among staff within projects, promoting values of equality, dealing efficiently with the public, and altering future projects according to the evaluation outcomes.

PM Practices & Processes (PMPPs)

1. The majority of PMs agreed that project management practices are steered by project goals and purposes. The responses of less than half of the sample stated that there are standardized practices for all projects.
2. When asked about the three main constraints of project success (time, budget, and quality), the majority of the sample agreed that quality is more important than time and budget, but many outlined that time is a major factor in determining project success while some noted that the budget for public projects needs to be increased.

3. Less than half of the sample agreed that there is an incentive system rewarding PMs for excellent performance, but the majority agree that failing projects will reflect badly on the PMs' annual appraisal.
4. If related to project life cycle, positive agreement is noticed through all phases. During the planning & initiating phase, the sample generally agreed about the availability of planning resources, tools for identifying time, using WBS, and the existence of a detailed project plan. During the execution phase, they broadly agreed that there are processes of managing risks and communication systems, submitting performance reports, and that monthly financial budgets are available. For the monitoring & controlling stage, the sample agreed that there is PMO, quality standards, KPIs checklists, and a detailed description of the types of measurements to apply through all project phases.

Correlation Findings

Strong, moderate, low, or no relation was found among the three categories of project management practices, processes, and PVs.

1. A strong relationship is found between PMPPs and PVs during the initiating and planning phase.
2. There is a strong relationship between PMPs during the monitoring and controlling phase and promoting values of staff to deal efficiently and fairly with target groups.
3. There is a low or no relationship between PMPPs and PVs during the monitoring & controlling phase and the closing phase.
4. PVs have a low or no relationship with the following PMPPs:
    - Choosing project management practices according to project goals during initiating & planning phase.
    - Adopting a standardized PMs' system for all projects in initiating and planning phase.
    - Preparing project plan during initiating & planning phase.
    - PMP during execution phase and cooperation among other governmental organizations.
    - The value of promoting values of staff to deal efficiently and fairly with target groups and having a communication system of updates and news, providing a PMO during the monitoring & controlling phase.

- Project management practices and getting formal approval from political authorities during the initiating and planning phase.

- **Qualitative Findings:**

Interviewing experts and PMs is of great help in identifying and ensuring the outcomes of the questionnaires. Results are summarized below:

1. There is general knowledge and awareness among the whole sample that the project goals and objectives are derived from QNV2030 and NSP2011-2016.
2. A need was expressed for more transparency and communication between TMs and PMs.
3. The time factor is the most critical factor that relates to project success. However, quality is more important than time and budget.
4. The simplicity of public projects means complicated software or methods of project management which consumes time and training, are not needed.
5. Traditional methods of evaluation are applied in terms of relying on the annual evaluation used among all governmental organizations. The efforts and achievements of employees within the whole year are not fully considered as the formal evaluation method relates to general administration standards only.
6. Experts are carrying out the tasks of documenting projects, identifying risks & challenges, and identifying outcomes.
7. Surveys are the dominant tools in gauging public satisfaction and gaining feedback.
8. There is a problem with sharing knowledge and lessons learned as organizations are not taking communication plans seriously.
9. Monitoring and applying project management tools is difficult among staff and time is needed to train them, which delays the delivering of outcomes.
10. Administration issues are creating obstacles to fulfilling the project objectives. Examples of such issues are sick leave days and unequal salaries among Qataris & non-Qataris.
11. There are no common CSFs among governmental organizations. It is up to each organization to set its own success criteria for the projects.

According to the findings, the common PMPPs in the public sector consider PVs during the initial and final phases, such as during the project's planning and closing, but

neglects them during the execution and monitoring & controlling phases. This calls for the inclusion of PVs throughout the project's phases, especially those dealing with the relationship between TMs and employees (Jorgensen and Bozeman, 2007). The findings also varied when comparing the strong presence of PVs in the initial phases of the project life cycle and the lack of PVs in the other phases, according to the CSFs of objectives & goals and boundaries. PVs need to be taken into consideration while choosing a relevant PMPPs, planning in detail all deliverables, the budgetary system, and resources allocations. Values like promoting efficiency, fairness, and equality are proved to be nearly non-existent while implementing projects in which interaction among employees and with a targeted group occurs.

There is the need for a clear set of PVs to be considered through the project life cycle and these should be designed to face this phenomenon of failure in the public sector.

7.6 Summary

The current chapter presents the findings of semi-structured interviews, which are discussed and compared to the questionnaire findings. The findings using qualitative and quantitative methods are the main elements of designing the proposed evaluation tool, which is discussed in detail in the next chapter.

Chapter 8: **Proposed Evaluation Tool (P²EARL)**

8.1 Introduction

The current chapter discusses three different areas. First, it gives a brief description of the current practices and processes used in project management. This links previous literature to the new tool. Second, it discusses the outcomes of the data analysis that is presented in chapters six and seven, and relates them to the required characteristics of the proposed tool. Finally, the new tool is presented, explained, and discussed in detail.

8.2 Characteristics of Proposed Evaluation Tool

Previously in the study, the related literature of PMS, CSFs, and success criteria, that are used to determine project success, were discussed. The '*iron triangle*' is still important and still in use to measure project success, but it is mainly used to ensure the efficiency of project delivery (Ebbesen and Hope, 2013; Williams et al., 2015). According to researchers, efficiency is one of the main aspects of project success, alongside '*team satisfaction, impact on the customer, business success, preparing for the future*' (Shenhar and Dvir, 2007; Mir and Pinnington, 2014; Williams et al., 2015). The research tool is designed, taking into consideration the components of the model developed by Westerveld (2003) and Bryde's PMPA Model (2003) and the outcomes drawn by Mir and Pinnington (2014) when they applied the model on PMs in the United Arab Emirates. When he developed the Project Excellent Model, he declared that it could be used for planning, managing, and evaluating any type of project. The findings of the analysis used for five project types in the study showed that this model can specify areas for improving project effectiveness in the organization.

Laursen and Svejvig (2016) argued that there is a strong relationship between project success, the created benefits, and stakeholders being satisfied with provided services. They also explained that the iron triangle can declare outputs success, while outcomes success is directly referred to value creation. They recommend that PMs must focus on '*value capture*' and combine the basic knowledge offered by PMBOK® with the benefits of PRINCE2.

Bryson, Crosby, and Bloomberg (2015) agreed with Kalambokidis (2014) that the PV can serve as both a mean of measuring performance and can act as a management framework. They also support the need for a new approach that can combine the benefits of Traditional Public Administration and NPM. Bozeman and Johnson (2014) focused on the limitation of public management research and public value theory, stating that these were too '*national*'

and depended heavily on the community itself. For example, PV will be nourished and promoted in a democratic and stable government, where values can be seen.

It is important to note here that the current research focuses on the essence of PV Theory. Researchers can suggest models, evaluation tools, or design methodologies, but what is proven by previous literature is that all successful initiatives are built upon a good understanding of the project environment and culture and the experience of PMs. Relying on project champions in the organization is one of the CSFs that Fortune and White (2006) referred to and is one of the last CSFs that they tested and approved. Practicality is important, since Moore provided real-life examples to prevent '*political issues, moral dilemmas, and major value conflicts'* in theoretical aspects, so it is important to test PV from a practitioner's point of view (Rhodes and Wanna, 2007).

Using project management in developing the current tool, which is more prominent in the private sector, does not mean that it is new to governmental bodies or PMs. According to Rhodes and Wanna (2007), there seemed to be minimal interest in even modifying project management tools to be used for public projects. Political authorities have great influence in countries like the USA, where Moore's concept is tested, or Australia, where Rhodes and Wanna are based. In Qatar, on the other hand, the influence of political authorities is noticed in mega projects, which determine financial benefits, construction investments, or political relationships. Political authorities are less noticeable when it comes to administrative and internal projects. Project management is a very helpful method of enabling public projects to address the challenges they face inside and outside the organization.

According to Bebbington et al. (2007) and Singh et al. (2012), it is necessary for organizations in general to use tools and indicators that help them pursue sustainability, and other values, through systematic procedures and processes that can be monitored and approved effectively (Martens and Carvalho, 2016). Previous attempts have been made to relate developed criteria to the project life cycle, like the work of Labuschagne and Brent (2008) and Bebbington et al. (2007). They included the variables of sustainability through the project processes from planning until evaluation and decision making to '*facilitate collaboration and improve projects' quality*' (Singh et al. 2012; Martens and Carvalho, 2016).

Findings from initial interviews, semi-structured interviews, and online questionnaires are taken into consideration in developing the assessment tool. According to many of the interviewees, authority is given to PMs to use what they think is suitable for their

organizations to implement a strategic plan. Therefore, a room is set aside to encourage any initiatives applying tools and techniques that can put strategic goals into action. Other semi-structured interviews revealed that some PMs sought to use effective tools that would not consume too much of their time and would not delay their team members in delivering their tasks. The issue of lack of communication with TMs was a common issue from the responses. Accordingly, it is necessary to find healthy and effective channels for communication between PMs and their TMs. Regarding the concept of evaluating their team members, there was a variety of evaluating the employee annually and evaluating their performance within the project life cycle.

Findings from online questionnaires helped to shape the characteristics of the evaluation tool. This tool should be suitable for different types of projects from administrative to technical and IT application. The tool should also be flexible to cover long-term projects, which can last over a year, and short-term projects too. Another important feature is the suitability of using PRINCE2 as a PMM since it gives SMs the credibility to carry out each stage of the project. From the questionnaire, it emerged that SMs have the authority to make decisions during the implementation phase. Such an approach helps to maintain their interest in projects, which increases the chances of them providing support when needed. The findings revealed widespread agreement that TMS is a key element to produce successful projects which has been hindered by the frequent change of SMs in governmental organizations in Qatar over the last five years.

PMs normally make use of almost all the project management tools, except financial tools like Cost Benefit Analysis (CBA), and Cash Flow Analysis (CFA), which were rarely mentioned. Many PMs suggested that they need powerful systems of KS that help to activate lessons learned as an essential factor of project success. Research by Bosch-Sijtsema and Henriksson (2014) studied methods and frameworks of interacting and sharing knowledge in projects. They provided a visual framework to encourage multi-communication away from regular traditional meetings. Creating such a framework stems from the need for communication in solving problems that can occur during different project phases, specifying the role of each team member, and helping to share knowledge and experience in a practical atmosphere.

According to the results of the questionnaire, PVs are absenting during the executing, and monitoring and controlling stages. This includes the need to embed the application of

seeking PVs during these two stages. When relating PVs to the CSFs, there were no relationships identified between objectives, goals and boundaries. This stimulates focus on these areas, when developing the evaluation tool.

Other relationships between PVs and PMPPs were also taken into consideration also:

1. SMs seeking political approval before initiating any project, has no relationship with setting objectives & goals, impact of current PMPPs tools on project completion on time, communicating submission of performance reports, conducting risk management, the existence of PMO, identifying the project timeline, and conducting continuous meetings to discuss progress during the implementation phase.
2. Communicating with target groups to get feedback on provided services as a value has no relationship with choosing project management practices according to project goals.
3. Cooperation with other governmental institutions as a PV was found to have a low relationship with project planning, the existence of PMO, communicating submission of performance reports, and the impact of current PMPPs tools on project completion on time.
4. An important PV is that employees should realize strategic goals that projects are built upon and this has no relationship with identifying the project timeline.
5. The PV of SMs' efforts to increase productivity and competition with other institutions to provide better services has no relationship with identifying project timeline and continuous meetings to discuss progress during the implementation stage.

Haverila and Fehr (2016) examined customer satisfaction at different project phases. They use three stages in the project life cycle in their theoretical framework; pre-installation, installation, and post-installation. They discussed how researchers varied in how they divided project phases into four, five, or six stages depending on the project's nature and complexity. In their framework, they combined pre-proposal and proposal stages in phase one entitled '*pre-installation*'. Installation is the second phase, while in the third phase, they combined '*commissioning and start-up, and completion and warranty.*' Since Haverila and Fehr (2016) customized their framework according to the needs of their research and in line with the related literature, the current developed tool is also based on relevant literature especially PMBOK® (2013). Five stages are identified in PMBOK® (2013), but, for the proposed tool,

the first and second phases are combined in the first phase, the initiating and planning phase. The other phases are execution, controlling and monitoring, and closing. The combination of initiating and planning into one phase is due to the need to combine the processes of PMBOK® & PRINCE2.

Another similar approach to the current study was conducted by Görög (2016), which reveals that current project management maturity models do not target elements of project success criteria. This indicated a more focused approach that led to a project management maturity assessment. The process followed by Görög (2016) in developing and investigating project management maturity assessment is taken into consideration to guide the current research. First, all project management maturity models are discussed in terms of similarities and differences. Then, they are explained in terms of their main objectives like performance, knowledge area, project processes and outcomes. Finally, models are investigated in real organizations as case studies to provide empirical evidence for their application.

Success criteria is discussed in depth by researchers for many decades, Görög (2016) presents three types of criteria: '*the traditional iron triangle of (cost, time, and quality), client satisfaction, stakeholder satisfaction, and team/leadership view of project management*.' There is also a detailed explanation for each criterion through the project life cycle provided by Görög (2016) in his explanation of the proposed maturity model. He refers to five phases in the project life cycle: '*the definition of the project result, the project initiation, awarding the implementation, the implementation, and the post-evaluation phase'*.

Collyer et al. (2010) interviewed (31) PMs and found three types of changes, which limits the effectiveness of using traditional project management methods. These changes are related to '*goals, materials, tools, resources, techniques, and relationships with other related projects and services*' (Serrador and Pinto, 2015). Serrador and Pinto (2015) found that there is statistical significance between the level of agile development used in managing projects and the three measures of project success: '*efficiency, stakeholder satisfaction, and perception of overall project performance*.'

Most large-scale projects require cross-sector collaborations, which can be strengthened and focused on as an element to be met during all project phases under the boundaries factor. Bryson, Crosby, and Bloomberg (2006) define collaboration as: '*the linking or sharing of information, resources, activities, and capabilities, by organizations to achieve jointly an outcome that the organizations could not achieve separately*' (Page et al.,

2015). The benefits of such a collaboration are measured by the amount of PV created (Moore, 1995; Bryson, Crosby, and Bloomberg, 2006; Page et al., 2015).

As noticed from the literature review and the qualitative analysis findings, citizen participation is a basic step in evaluating project outcomes or defining public needs for future projects. The challenges of governing values like '*effectiveness, legitimacy, and social justice*' during citizen participation are discussed by Fung (2015). Challenges include leadership type and motivation, the lack of official arrangements that govern public contribution, and the amount of participation permitted and needed in establishing decisions regarding project design and implementation.

Another explanation of PVs is provided by Page et al. (2015) in their study of '*public value creation by cross-sector collaborations'*. They tried to provide an assessment of creating PVs through cross-sector collaboration. Some definitions of PVs are given below:

1. '*Vertical democratic accountability*': The extent to which decisions and implementation are legal and responsive to authorizers.
2. '*Horizontal democratic accountability*': The extent to which decisions and implementation responds to collaboration partners and other stakeholders.
3. '*Procedural rationality*': The extent to which decisions are based on technically and administratively sound data, analysis, and planning.
4. '*Procedural justice'*: The extent to which stakeholders perceive collaboration decisions and activities to be fair and transparent.
5. '*Effectiveness*': The extent to which goals are achieved.
6. *'Efficiency'*: The extent to which goals are achieved at reasonable cost.
7. *'Equity of benefits'*: The extent to which benefits are spread appropriately among stakeholders and the public.
8. '*Equity of payment*': The extent to which costs of tasks are spread appropriately among stakeholders and the public.

8.3 The Proposed Public Project Assessment Tool- P²EARL

The proposed tool (P²EARL), ***P****ublic* ***P****rojects* ***E****nhanced* ***A****ssessment tool for* ***R****ecognizing public Va****L****ues*, is designed to fit all types of projects in governmental organizations. The tool is constructed taking into consideration the combination of PRINCE2 and PMBOK®, Jorgenson & Bozeman PVs, and White & Fortune CSFs. The significant contribution of the tool is in aligning these specific project management methodology with the PV indication in each step and with each item of the tool. The current PMM is different than other methodologies in terms of joining both PRINCE2 & PMBOK® practices and tools that won't consume the PM time, effort, and training commitments.

The PVs provided by Jorgensen & Bozeman (2007) provide more description of the values application and examples of similar projects which is of a great help in designing the tool. They classified PVs into seven groups, but for the aim of relating these values to the current evaluation tool, the researcher divided them into two groups. The first group focuses on *relationship with the community*. This group covers four main streams of values. First, values related to the contribution of the public sector to society. Examples of these values are considering *'public interest, altruism, human dignity, sustainability, regime dignity and stability*'. Second, values related to *public involvement in decisions*. Examples of these values are related to *'majority rule, democracy, will of the people, collective choice, use democracy, local governance, citizen involvement, protection of minorities, protection of individual rights*'. Third, values related to the *public administrations' relationships with their environment*. Examples of this set are *'openness-secrecy, responsiveness, listening to public opinion, advocacy neutrality, compromise, balancing of interests, competitiveness, and cooperativeness, stakeholder or shareholder value'*. Finally, values related to the *relationship between public administration and the citizens*. Examples of these values are *'legality, protection of rights of individuals, equal treatment, rule of law, justice, equity, reasonableness, fairness, professionalism, dialogue, responsiveness, user-democracy, citizen involvement, citizen's self-development, user orientation, timeliness, and friendliness*'.

The second group of values are related to *hierarchical relationship in the public sector* and these are divided into three sets of values. First, values related to relationships between public administrators and politics. Examples of these are *'political loyalty, accountability, and responsiveness*'. Second, the *intra-organizational aspects of public administration*. Examples of these are *'robustness, adaptability, stability, reliability, timeliness, innovation,*

enthusiasm, risk readiness, productivity, effectiveness, parsimony, business-like approach, self-development of employees, and good working environment'. The final set contains values related to the *behaviour of public sector employees*. Examples of these are *'accountability, professionalism, honesty, moral standards, ethical consciousness, and integrity*'.

PVs are combined with the CSFs used by Fortune & White (2006). Eigbe, Sauser and Felder (2015) used a similar technique in which they start by applying questionnaires to collect data about best practices in project management and critical factors of program evaluation. Then, they conducted structured interviews to choose the most relevant programs among the questionnaire sample. After that, analytical methods were used to conclude on critical factors. They faced some difficulty and limitations in terminology when unifying similar responses of participants using qualitative tools.

Continuity is one of the most important factors in the proposed tool, as '*preparedness for the future*' as used by Rank, Unger and Gemünden (2015) who revealed that this is adopted in organizations with '*quality management and reactiveness and low riskiness*'. This factor is considered in other studies as a criterion of success for managing projects individually and collectively (Schenhar et al., 2001; Teller and Kock, 2013; Rank, Unger and Gemünden, 2015). According to Yun et al. (2016), most metrics used to evaluate project success are to be applied after the completion of the whole project. The problem of benchmarking is that the benefits can be gained in the post-evaluation phase of the project, when the PM and top management decide on the lessons learned for future projects. To sum up, it is important to use metrics or factors to evaluate a project in order to set the lessons learned for the future.

Blomquist, Farashah and Thomas (2016) developed a scale to test '*self-efficacy as a predictor of project performance*' and followed certain steps to reach a final approved scale. First, they provided a '*conceptual definition*' of project management self-efficacy. Then, they provided an operational perspective with initial metrics. After that, they designed and conducted a questionnaire. Finally, they tested the scale statistically as well as the margins of generalizability.

In their process of '*developing performance metrics tailored to phase-based benchmarking for various industry sectors and project types'*, the researchers revised previous studies related to the topic. They then designed their framework based on the literature review findings. Based on this, they conducted a questionnaire and collected

performance data and gained experts' views for final modifications. Similar steps are taken when designing the current tool (Yun et al., 2016). They call their framework '*The CII 10-10 Program*' in which they evaluate project performance during different project phases to enhance performance in future projects. Any performance management system should suit the characteristics of the project in the first place in order to be a success. Fryer, Antony and Ogden (2009) focused on certain elements to improve performance management such as: *'involvement, information, focus on quality more than financial issues, and importance of aligning performance management systems with strategic goals*.'

Gomes, Yasin, and Lisboa (2008) stated the most important management-related variables in sequence: '*technical competence, leadership abilities, communication, cost management, quality management, time management, standards (quality, safety), and top management support*.' They also highlighted the most influential key factors in project success: *'decisions by team, desire to excel on the project, decision made by upper manager, internal politics, and decisions by the client*.' Pich, Loch and Meyer (2002) highlighted the importance of evaluating the project team and their ability to find creative solutions for the challenges they face. They should not be evaluated only in terms of fulfilling fixed targets.

In light of previous approaches used by researchers, the current tool (P²EARL) attempts to combine the outcomes of recent research conducted by others with findings from data collection in Qatar. This tool aims, as mentioned before, to replace the latest attempt of QNPM (2006) to activate project management in the public sector.

Project Phase / CSFs	Initiating & Planning	Project Name	Executing	Project Name	Monitoring & Controlling	Project Name	Closing	Project Name
Goals & Objectives	- There is a contribution to the society. - The goals consider SMARTER targets. - There is a strong business case.		-Project activities lead to achieving goals. - Perform activities to accomplish project requirements.		- Actual performance is compared against project plan. - Consumers participated in evaluating the process.		- Required products are delivered & accepted by consumers. - Update project plan with figures from Final Stage Plan.	
Performance Monitoring	- There is a software/ technique chosen to be used to monitor performance. - Monitoring techniques are discussed with team members. - Outcomes/deliverables are specified. - There is a success criteria/ Acceptance criterion - Start-finish dates & total days required are specified.		-Planned methods & standards are implemented. - Project deliverables, (WBS) is created.		- Performance is assessed. - Corrective/preventive actions are identified. - New risks are identified & approved. - Accurate information base of product completion is maintained.		-Project Product Description is reviewed with consumers to gain agreement of acceptance criteria. -Product Status Account is obtained. -Achievements of project benefits are measured. -Recommendations for subsequent work on product are recorded.	
Decision Makers	- The project has political/top management support. - Public administrators considered involving the public. - Public Administrators have participated in planning phase. - Past experience & correct PMPPs choices are embedded within the plan.		- Public managers' authorization after each stage? - Public Administrators approve changes in project scope, plans, and environment.		- Public Administrators demand reports of product's performance. - Public Administrators approve stages according to measured outputs. - Administer quality measurement outcomes.		-There is an agreement from decision makers on acceptance criteria. -TMs decided if any completion work is needed to create an exception plan. -Public Administrators declare project closure.	
Transformations	- There are sufficient team members. - There is room for cross-sectional cooperation. - There are equal opportunities provided to participants in the team. - There is a human resource plan (Role description charts).		- Staff members are provided with training opportunities. - Team members are managed according to General Ethics. - Load of work is distributed equally.		- There is recommendation for staff development if needed. - There is a (weekly, monthly) reporting system.		-Team members' achievement is compared against original plan. -There is an evaluation of team members' efforts.	
Communication	- Communication plan between TMs and politics are set. - There is a communication plan between TMs and PMs. - There is a communication plan between PM and his/her employees. - There is a communication plan with stakeholders.		- Project communication channels are established & managed. - Communication plans occurred as planned. - Feedback from each plan is recorded. - Meetings took place as planned.		- Information is provided to support status reporting progress measurement and forecasting		-Final outcomes are discussed. -Rooms for improvement are suggested. -Majority agreement is taken before closing the project.	
Environment	- Organization culture is considered. - Political stability is maintained. - Past experience/lessons learned culture is enforced.		- Environment influences are considered. - Organizational culture is seen through competition & cooperation.		- Project is monitored in terms of PMs' responsiveness to stakeholders' & consumers' needs.		-Final product considered as an outcome of interaction between public managers and stakeholders.	
Boundaries	- There is a realistic time plan. - Project is clear & not complicated. - There is a specific number of people involved in the project.		- Project data are generated to facilitate forecasting. - Change requests & risks logs are submitted.		- Public involved in open dialogue to face risks. - Inform consumers of possible changes or delays.		-Stability of changes & dealing with risks are documented within the final report.	
Resources	- There are sufficient resources, provided training, easy/familiar & effective technology, and assigned outside resources (consultants, suppliers.)		- Resources are obtained, managed, & used. - Sellers & suppliers are used.		- Forecast is provided to update current cost & schedule information & resources.		- End Project Report is written & it discusses exact use and fulfilment of resources.	
Continuity	- Risks are specified. - Plans for public involvement during the project are specified. - Possible future use & final product is specified.		- Risks are managed & risk response activities are implemented. - Issue change requests are implemented. - Lessons learned are documented & approved process improvement activities are implemented.		-Risks are well-managed. - Change Requests are reasonable and fulfilling public needs. - Implementing approved changes are monitored as they occur.		-All issues have been dealt with & specified. - Those responsible for maintenance and those who will accept the product are specified. -Lessons learned are passed from the project (Lesson Report). -Impact of product on society is documented.	

Figure - 23 – Proposed Assessment Tool – (P²EARL)[7]

[7] P²EARL: The tool is designed and first applied in the State of Qatar, the name is inspired by the PEARL. Which is considered as a modern & attractive area for future projects and investments. http://www.thepearlqatar.com/EN/TheIsland/Pages/The-Pearl-Qatar.aspx

Project Phase / CSFs	Initiating & Planning	Executing	Monitoring & Controlling	Closing
Goals & Objectives	- *There is a contribution to the society.* - *The goals consider SMARTER targets.* - *There is a strong business case.*	-*Project activities lead to achieving goals.* - *Perform activities to accomplish project requirements.*	- *Actual performance is compared against project plan.* - *Consumers participated in evaluating the process.*	- *Required products are delivered & accepted by consumers.* - *Update project plan with figures from Final Stage Plan.*
Performance Monitoring	- *There is a software/ technique chosen to be used to monitor performance.* - *Monitoring techniques are discussed with team members.* - *Outcomes/deliverables are specified.* - *There is a success criteria/ Acceptance criterion* - *Start-finish dates & total days required are specified.*	-*Planned methods & standards are implemented.* - *Project deliverables, (WBS) is created.*	- *Performance is assessed.* - *Corrective/preventive actions are identified.* - *New risks are identified & approved.* - *Accurate information base of product completion is maintained.*	-*Project Product Description is reviewed with consumers to gain agreement of acceptance criteria.* -*Product Status Account is obtained.* -*Achievements of project benefits are measured.* -*Recommendations for subsequent work on product are recorded.*
Decision-Makers	- *The project has political/top management support.* - *Public administrators considered involving the public.* - *Public Administrators have participated in planning phase.* - *Past experience & correct PMPPs choices are embedded within the plan.*	- *Public managers' authorization after each stage?* - *Public Administrators approve changes in project scope, plans, and environment.*	- *Public Administrators demand reports of product's performance.* - *Public Administrators approve stages according to measured outputs.* - *Administer quality measurement outcomes.*	-*There is an agreement from decision makers on acceptance criteria.* -*TMs decided if any completion work is needed to create an exception plan.* -*Public Administrators declare project closure.*
Transformations	- *There are sufficient team members.* - *There is room for cross-sectional cooperation.* - *There are equal opportunities provided to participants in the team.* - *There is a human resource plan (Role description charts).*	- *Staff members are provided with training opportunities.* - *Team members are managed according to General Ethics.* - *Load of work is distributed equally.*	- *There is recommendation for staff development if needed.* - *There is a (weekly, monthly) reporting system.*	-*Team members' achievement is compared against original plan.* -*There is an evaluation of team members' efforts.*
Communication	- *Communication plan between TMs and politics are set.* - *There is a communication plan between TMs and PMs.* - *There is a communication plan between PM and his/her employees.* - *There is a communication plan with stakeholders.*	- *Project communication channels are established & managed.* - *Communication plans occurred as planned.* - *Feedback from each plan is recorded.* - *Meetings took place as planned.*	- *Information is provided to support status reporting progress measurement and forecasting.*	-*Final outcomes are discussed.* -*Rooms for improvement are suggested.* -*Majority agreement is taken before closing the project.*
Environment	- *Organization culture is considered.* - *Political stability is maintained.* - *Past experience/lessons learned culture is enforced.*	- *Environment influences are considered.* - *Organizational culture is seen through competition & cooperation.*	- *Project is monitored in terms of PMs' responsiveness to stakeholders' & consumers' needs.*	-*Final product considered as an outcome of interaction between public managers and stakeholders.*
Boundaries	- *There is a realistic time plan.* - *Project is clear & not complicated.* - *There is a specific number of people involved in the project.*	- *Project data are generated to facilitate forecasting.* - *Change requests & risks logs are submitted.*	- *Public involved in open dialogue to face risks.* - *Inform consumers of possible changes or delays.*	-*Stability of changes & dealing with risks are documented within the final report.*
Resources	- *There are sufficient resources, provided training, easy/familiar & effective technology, and assigned outside resources (consultants, suppliers,)*	- *Resources are obtained, managed, & used.* - *Sellers & suppliers are used.*	- *Forecast is provided to update current cost & schedule information & resources.*	- *End Project Report is written & it discusses exact use and fulfilment of resources.*
Continuity	- *Risks are specified.* - *Plans for public involvement during the project are specified.* - *Possible future use & final product is specified.*	- *Risks are managed & risk response activities are implemented.* - *Issue change requests are implemented.* - *Lessons learned are documented & approved process improvement activities are implemented.*	-*Risks are well-managed.* - *Change Requests are reasonable and fulfilling public needs.* - *Implementing approved changes are monitored as they occur.*	-*All issues have been dealt with & specified.* -*Those responsible for maintenance and those who will accept the product are specified.* -*Lessons learned are passed from the project (Lesson Report).* -*Impact of product on society is documented.*

Table -79- Proposed Success Criteria for Public Project

The detailed success criteria of the proposed tool is in table (79), outlining nine CSFs that must be met throughout all project phases. During the first phase, the PM should make sure that the chosen project makes a significant contribution to society, which can be steered by setting goals using SMARTER[8], or other methods of setting objectives commonly used by PMs. The contribution is driven by lessons learned from previous projects or from a recent survey of the current needs of the target groups. By setting objectives, the PM can decide which tools to use and outcomes expected when the service is delivered. A realistic time frame along with an adequate budget, as well as sufficient human and technical resources must be provided. The difference between this success criteria and the used tool later in chapter 9, is that the reader can review all the components of all the phases from the criteria and separate the phases according to its' occurrence during the implementation. This will provide the PM with a foresight with what is coming in future phases and enables him/her to design the plan according to the component of the success criteria in table (79).

The most important factor in planning public projects, according to previous quantitative and qualitative findings, is the focus on the role of TMs and specifying their roles within the original plan. Here, the project type and size will determine the need for political approval as is the case with grand governmental projects, while in smaller projects the approval of the relevant minister or general manager is enough. The plan shall consider specific timescales for communication with TMs, when to send regular reports, what is to be sent, and who is in charge of meeting TMs. If this plan is approved by TMs, it can prevent delay in delivering a project as they show their commitment to the dates and pledge to observe the implementation of the project. In most cases, ministers are unable to observe every single step, so the plan must be realistic in terms of choosing the most important milestones that require their approval. To deal with TMs' busy schedules, delegates shall be assigned early in the plan to ensure their involvement and commitment.

Another important aspect, which the plan must explain in full, is the communication plan. The communication plan should cover the number of meetings and goals to be shared between TMs and PMs. A meeting between the PMs and staff is an essential element of the communication plan. The PM's role here is to make sure that meetings are professional, clear in terms of targets, and as short as possible so they do not consume too much of the staff's time and effort. Tasks are also specified within the project plan along with

[8] SMARTER Goals: A SMARTER goal is **S**pecific, **M**easurable, **A**greed, **R**ealistic, **T**ime-bound, **E**thical, and **R**ecorded.

their timescales. The main problem according to the study findings is that setting tasks with an unrealistic time frame guarantees project failure. It is necessary for a public project to follow pragmatism in planning, which eliminates reasons for failure and increases the chances of witnessing some tangible outcomes. A very important partner in this communication process is the audience or the public. Such communication with the public can be ensured by transparency and keeping them informed of project updates, challenges, achievements, anticipated deliverables, and expected dates for delivery.

The PM and his/her team must also specify possible risks, analyse them in the initial plan and discuss them throughout the project. The plan may also be improved by covering future use of the final product in order to achieve sustainability and to maintain adequate use of resources. It is important to have a comprehensive plan including all the steps required to deliver the desired outcomes of the project.

During the execution phase, the PM's time and focus will be allocated to both conducting activities and communicating updates and progress. Experience and flexibility of knowledge is critical for a PM. A decision must be made on the needs of project members on issues including training, tools, and outsourcing. The PM shall deal equally with his/her team when it comes to considering vacations, capacities, and interests. A specific WBS is generated by the PM and his team, displayed and communicated for the whole implementation phase. It is important for the PM to gain approval after each stage from his/her TM and from political authorities in the case of large-scale projects.

When implementing project activities, the PM and his team must be aware of the impact of their interaction with the external environment. They are representing the culture and values of the organization when dealing with the public or other organizations. Their use of resources must be reasonable, accountable and should be shared with the public as progress is made.

Documenting all project steps and milestones is very important in terms of maintaining data for the next stage, which is monitoring and controlling. All change requests, expenditures, authorisations, risk response activities and issue logs are recorded and made available for audit. These documents reveal lessons learned and are of great importance for subsequent phases.

The third phase is monitoring and controlling, which was discussed earlier, aiming to evaluate the project during the implementation phase, so that any necessary changes

to improve the product can be conducted before the closing phase. A third committee outside the organization can carry out monitoring, or a department within the organization, which is responsible for submitting reports to the general manager or relevant minister. This committee or department may invite representatives from the community to evaluate certain steps within the project execution or implementation phase. This is usually essential for large-scale projects, where the public have a keen interest in their results. The role of this committee is to compare the project execution phase to the original plan. The performance of the project team is evaluated, so corrective actions and new risks are identified in regular reports submitted to the TMs.

These reports are relied upon by TMs in authorizing each step, or in deciding to implement a crucial change, or even to terminate the whole project. The main factor here is whether the project is fulfilling the public need. That is why it is important to tell the public of any interesting outputs to keep them interested and to gain their encouragement. These regular reports should also be honest about any possible delays or unexpected changes.

The final phase is the closing phase, where the final product or service is provided to the audience. There should be success criteria in place to evaluate the product in terms of achieving the initial goals and meeting public needs. Stakeholders' agreement is considered within the final revision of the product before formal initiation. TMs make final decisions regarding any further work or additions to the final product. After gaining the TMs' approval and the agreement of most stakeholders, a clear closure of the project occurs.

This step is the final element in the '*End Project Report*' and it is communicated among all employees inside the organization and to the audience or the consumers of the service. Lessons learned from dealing with risks and challenges are documented and transferred to the PMOs, experts, or PMs to consider them when planning future projects.

8.4 How to put (P²EARL) into use

PVs are embedded within each step of the tool's application. Bozeman & Jergenson (2007) divide PVs into seven categories as explained earlier in Chapter 4 and as seen in figure (8). These seven categories are reduced into two categories as shown in the following table:

Public Values Categories	Values Streams	Related PVs
Relationships with the Community	Contribution of public sector to society.	*'public interest, altruism, human dignity, sustainability, regime dignity and stability'*
	Public involvement in decisions.	*'majority rule, democracy, will of the people, collective choice, use democracy, local governance, citizen involvement, protection of minorities, protection of individual rights'*
	Public administrations' relationships with their environment.	*'openness-secrecy, responsiveness, listening to public opinion, advocacy neutrality, compromise, balancing of interests, competitiveness, and cooperativeness, stakeholder or shareholder value'*
	Relationship between public administration and the citizens.	*'legality, protection of rights of individuals, equal treatment, rule of law, justice, equity, reasonableness, fairness, professionalism, dialogue, responsiveness, user-democracy, citizen involvement, citizen's self-development, user orientation, timeliness, friendliness'*
Hierarchical Relationship in the Public Sector	Relationships between public administrators and politics.	*'political loyalty, accountability, and responsiveness'*
	Intra-organizational aspects of public administration.	*'robustness, adaptability, stability, reliability, timeliness, innovation, enthusiasm, risk readiness, productivity, effective ness, parsimony, business-like approach, self-development of employees, good working environment'*
	Behaviour of public sector employees.	*'accountability, professionalism, honesty, moral standards, ethical consciousness, integrity'*

Table -90- Categories of Public Values- derived from (Bozeman & Jergenson, 2007)

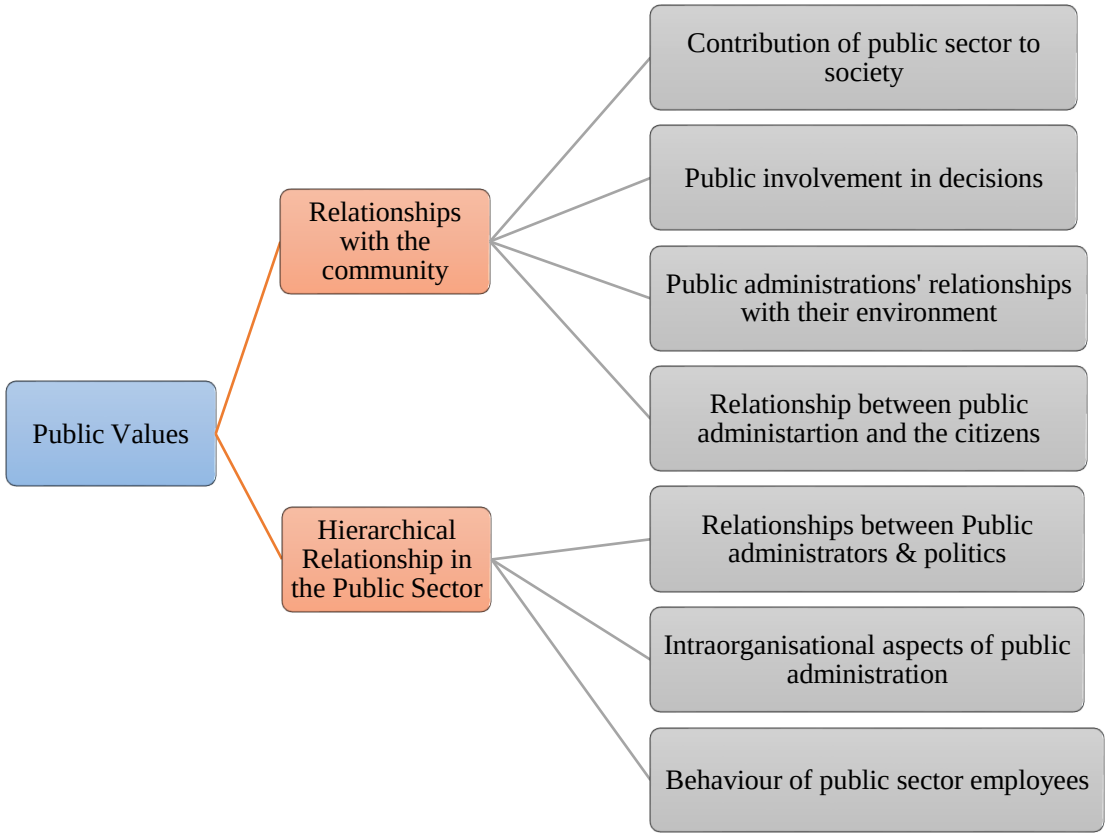

Figure -24- Categories of Public Values- derived from (Bozeman & Jergenson, 2007)

If the public project achieves any of the values set out in each stream it is to be considered as achieving the PVs in this domain. For example, if the project team considers sustainability as a value in designing the project plan and works to achieve it, this is a clear contribution to society. This is because PVs are related to each other and share some common aspects. According to Bozeman & Jergenson (2007), human dignity relates to other values like: '*self-development of the citizen, citizen involvement, protection of the rights of the individual, justice, benevolence, the voice of the future, and equity*.' Sustainability, according to the authors, is also a general value that covers other values: '*stability and continuity, the common good and public interest, moral standards, ethical consciousness and solidarity*.'

Citizen involvement, they assert, also refers to a set of values: '*the will of the people, listening to public opinion, responsiveness, dialogue, balance of interests, and self-fulfilment*.' Protection of minorities, they note, also relates to '*fairness, justice, balance of interests, and human dignity*.' Accountability and responsiveness share common characteristics. Accountability, state the authors, covers '*reliability and professionalism*', while responsiveness focuses more on '*listening and reacting quickly to the wishes of others*.' Loyalty, in this case '*political loyalty*', covers other values such as: '*accountability, stability, neutrality, the will of the people, and public interest*.' Openness, opine the authors, relates to '*accountability, the rule of law, dialogue, democracy, the will of the people, and collective choice*' (Bozeman & Jergenson, 2007).

Bozeman & Jergenson (2007) also explain more business-related values like '*shareholder value, competitiveness, robustness, innovation, productivity, and self-development of employees*'. Shareholder value as a value relates to '*parsimony, productivity, and effectiveness*' which leads to competitiveness as a value that means '*market success, business-like approach, risk readiness, responsiveness, and effectiveness*.' Robustness and other values like '*adaptability, stability, reliability, and timeliness*' are the main characteristics that can best describe the organization's operation system that shall gain the trust of the public. After this group, comes a group of values of '*innovation, enthusiasm, risk readiness, dialogue, and flexibility.*'

The last set of values are related to the characteristics of the behaviour of public sector employees and the values related to the relationship between public administration and citizens. Values related to these two domains are difficult to measure unless the project depends on them as a main success factor. The behaviour of public sector employees must

reflect certain values such as: '*honesty, moral standards, and ethical consciousness*.' When discussing the values related to the relationship between public administration and citizens, '*legality, equity, dialogue, and user orientation*' appear to be the most important values.

When designing the current tool, the researcher revised earlier attempts in evaluating the creation of PVs. Mahdon (2006) stated that the most critical challenge in creating PVs in the healthcare system is to maintain '*consistency and quality of care*' during all phases of change. Mahdon mentions 'key PV challenges' as being collaboration between citizens and professionals, and involvement of '*service users in healthcare system, ensure reality of choices, explanation of healthcare limitations, raising expectations, proper allocation of resources to tasks, meeting good practice standards, measuring engagement of public, and checking reality of public feedback.*'

The tool is designed to facilitate planning and evaluating of public projects by combining best practices and research findings. In order to apply this tool effectively, there should be a project plan with objectives and expected outcomes, a specific time and budget plan, a risk plan, and available resources. This tool may consume significant time when the PM starts to apply it at first, but, with more practice, the application becomes faster. It is better, of course, to include technology when available to the PM and his team to check progress on a regular basis and share updates.

There are certain steps that the researcher followed when applying this proposed tool. First, the tool was presented to the team members and discussed in detail to make sure of the availability of its components and to familiarise them with what they will be evaluated on. Next, previous assets, resources, and lessons learned are collected and studied to decide what should be used for projects. After that, when each step is accomplished, a meeting is conducted to close the phase and submit a signed form for the TM's official approval to move on to the next steps. The last step is to communicate the results of the project to the whole team and TM.

8.5 Evaluating (P^2EARL)

The proposed tool is evaluated by using the questions posed by Hills & Sullivan (2006) in their study covering practical approaches to measuring PV. They claim to propose the first evaluation framework that is designed to figure out attention to existing methods of measurement and asked whether the existing methods of measurement are suitable for '*use in a public value paradigm*'. They also describe the framework to be '*capable of being applied*

to any method of measurement, regardless of its ontology and epistemology or the scientific paradigm in which it originated'.

1. ***"Does the tool fit the purpose and meet relevant methodological standards like method-specific and quality standards*?"**

The current proposed tool is designed based on knowledge of PMBOK® and PRINCE2. Quality is assured by aligning the procedures with the PVs derived from the latest attempts to develop PV Theory. *Does it consider the following standards*?

- *The complexity of the situation:* The steps are designed to be followed easily if the project team spends reasonable time in planning and gaining authorization before each step. Organizations with strong project management practices will find it easier to apply the tool compared to other organizations.
- *Effectiveness & efficiency:* The tool is effective in the way it is designed to allow PMs to achieve a maximum level of PV creation even if they apply 50% of the steps. Efficiency is achieved by focusing on planning and setting goals considering PVs as the priority. The closing phase also focuses on achieving goals, managing knowledge, and lessons learned.
- *Relevant PVs:* The tool is built upon a set of values and the PMs shall specify which values they are planning to create according to the projects they conduct. This relates to the PM's ability to follow steps according to the characteristics of the chosen project.

2. ***"Does it allow public involvement & negotiation between different stakeholders?"***

This depends on engaging the public in each step and communicating with stakeholders during relevant steps through the project life cycle. The tool addresses the weaknesses found in the questionnaire results during the executing and monitoring phases.

3. ***"Are the steps and findings of the tool transparent and accessible?"***

The CSF of communication is the most important factor in ensuring transparency and accessibility of planned and achieved outcomes of the project, the resources used, and the challenges with relevant solutions to be applied. The tool also encourages public participation in the planning and evaluating phases and presenting outcomes to them.

4. ***"Does it consider authorization before each step?"***

Absolutely. Its design is based on processes from PRINCE2, which determines TM approval and authorization before each step.

5. ***"How to make sure the tool and its findings are used appropriately and with integrity?"***

Choosing a suitable PM and team members and observing the whole process with the aim of creating PVs are imperative here. Observation occurs during the third phase, monitoring and controlling.

6. ***"Does the tool create value in and out of itself?"***

Yes, it does in terms of generating democracy, transparency, sustainability, equality and other PVs.

8.6 Summary

This chapter presented the proposed evaluation tool and discussed in detail the characteristics of this tool and the results of the previous interviews and questionnaires that helped in designing the elements of the tool. Previous studies on PVs, which contribute to designing the evaluation tool, are presented through detailed success criteria. The detailed success criteria outline PVs generated through the four stages of the project life cycle. The tool is also evaluated using the questions provided by Hills & Sullivan (2006) to check PVs generated in the success criteria.

Chapter 9: *Case Studies*

9.1 Introduction

This chapter displays information about the studied projects. It gives detailed information about the organizations and general regulations that govern the implementation of these projects. The process of investigation is also explained here, namely interviews and observation findings. It also compares in detail the results of applying P²EARL on the three chosen projects.

Project selection entailed a process of contacting five ministries and governmental agencies before responses were gleaned from three projects from two organizations. The first ministry in which *Project A* was conducted had some administrative issues, which caused a serious delay in approving the case study's implementation. *Projects B and C* were carried out in a semi-governmental organization and they had similar target groups, time frames, resources, and importance to the organization. The three projects share similar characteristics since they are both funded by the ministry of Finance and selected by the top manager in each organisation without an interference of the researcher. More detail about the application and findings are specified below in this chapter.

9.2 Case Study Methodology

According to Feagin et al. (1991) and Love et al. (2016), conducting a case study is ideal if the researcher needs an in-depth consideration of a situation to gather sufficient information about a critical issue.

When reading specific public case studies, different management systems have been investigated about project success. The need for public reform in a developed country like New Zealand came when achieving values is not enough and the system failed, because it did not address the public's right to express opinions and share feedback with service providers. There was no transparency from the managers in their direct interaction with the public (Mulgan, 2008; Shahjahan and Amagoh, 2011). Another relevant example is Italy which achieved financial transparency by establishing an e-government system which also resulted in effective communication among governmental organizations and more cooperation between public and private schools (Kudo, 2008; Shahjahan and Amagoh, 2011).

Traditional close-out[9] techniques like conducting a *'close-out meeting*' are not particularly useful according to Love et al. (2016). They focus on transferring the lessons learned and use their outcomes to benefit the project during its implementation. If the project team expects such meetings, they can be held after finishing the current project or when the potential benefit from the lessons learned has diminished. Open communication is encouraged according to this study where *'self-awareness to recognize unusual issues, honesty to admit mistakes, and take responsibility to act appropriately on what is learned*'.

9.3 Projects' Background

- **Project A**

Project A was conducted in a department under the direct supervision of a ministry in Qatar. This ministry has multiple offices and branches all over the country. The chosen department deals with signing approvals for people from outside Qatar seeking to work and/or stay for a period in the country.

The project focused on providing training for employees that deal with the public on a regular basis. The aim of the training workshop was to enhance employees' attitudes and belief toward the importance of their job to society. The first meeting was attended the direct manager, HR director, outsource trainer, coordinators from the mother organization, and a head of department.

The trainer believed that it is very important to focus on the PVs as a core element of his training workshop. From the administrator's perspective, they tried to focus on increasing PVs and positive attitudes among receptionists. They focused on improving trainees' sense of belonging to the organization. The trainer asked some questions about the working systems for the morning and evening shifts. He suggested a reward system and a more transparent communication culture. The trainer suggested meeting the trainees in advance to gather needed information before designing the training program. He wanted to know about their education levels, years of experience, demands and challenges, and their expectations of the new program.

The project was supposed to start in July, but due to administrative issues in the relevant ministry, the project was postponed to August, and postponed again until February

[9] Close-out technique: The practice of project close-out finalizes all project activities completed across all phases of the project to formally close the project and transfer the completed or cancelled project as appropriate (Www2a.cdc.gov, 2017).

2017. The project faced another delay about employees' annual holidays. It was noticed that most of the employees, especially TMs, take their annual leave in line with their children's summer holidays. When people temporarily took their places, they had no decision-making authority.

The coordinators in the ministry responded at the beginning of February 2017 in a series of training sessions for new employees and other employees facing trouble in dealing with customers in the reception areas and other departments in the ministry. The coordinators launched a training session in February focusing on interaction skills with customers and other employees. The whole training program is being provided for the whole calendar year of 2017. The chosen training session was presented in one week and program coordinators measured the employees' progress.

- **Project B**

The project ran in a semi-governmental organization in Qatar, which was funded by the Ministry of Finance. The project was an annual competition targeting children and youth in certain areas with prizes for the first three positions. The project team proposed a new plan during August and gained approval by the end of the month. Team members for this project were the director of the department, head of development section, and two coordinators. The previous version of the project was carried out for three years from 2012 to 2015. The concept of the project can be summarized as assigning a freelance trainer to develop registered children enrolled in the program for nearly a month. According to the team members, the old version of the project had some troubles during execution. For example, the lack of registered Qatari children or youth, lack of regular attendance from participants, and poor media coverage. The new outline of the program is to transform the workshop into regular meetings with three experts in each domain. During these meetings, experts review participants' projects and give them detailed feedback to adjust their work and gain experience by practice. Rewards for first place are satisfactory for the target group and considered a very competitive feature when compared with similar programs among other public and private organizations.

- **Project C**

This project was assigned to the researcher from the same semi-governmental institution as that of *Project B*. Both Projects B and C share a similar concept, target groups, budget, time frame, resources, and importance to the organization in terms of relevance to the yearly plan. The only difference is that each project is constructed under a different

department, PM, and team members. *Project C* was handed to the researcher to deliver as the PM, and she assigned two employees as team members to work under her supervision. The previous version of this project used to be similar to *project B* as it starts with training and waits for children to produce their work, before expert's judge and announce the winners. The new version focused on specifying certain demands and standards from the start of the program. Then, the project coordinator was to monitor the participants' progress through continuous communication. After that, the project goes into evaluating the work of experts and, finally, results are announced.

9.4 Project Life Cycle

Project	Initiating & Planning	Executing	Monitoring	Closing
A	- Got approval to initiate the project in May 2016. - There is no specific plan & the trainer will provide everything.	- According to the original plan, the project is supposed to start in July. But it is postponed until 2017.	- The training department is responsible for the official evaluation of the whole program. - The researcher attends the training session to relate the content to the goals and PVs generation.	- There is a booklet distributed among participants to indicate the benefits gained from the training and the plan of implementing what they gained in their work.
B	- Submit proposal to TM in May. - Got approval in August 2016. - General plan without details, resources, risks, strategic outcomes.	- The project is late so the newly suggested starting date is September 2016. - Actually, it starts from October until November 2016.	- Third party evaluators are assigned to evaluate the program. - An online evaluation form is designed to elicit public feedback about the services provided. - The new proposed tool is used as an evaluation tool.	- The final evaluation report of the whole program is discussed in a formal meeting to share lessons learned among all team members and other employees. - After the meetings, the final report is adjusted according to the outcomes and documented within the final program report.
C	- Submitted proposal to TM in June and got approval in July 2016. - Detailed plan is discussed and distributed among team members.	- Starts in September until December 2016. - Longer time required to evaluate the work of children.	- Third party evaluators are assigned to evaluate the program. - An online evaluation form is designed to elicit public feedback about the services provided. - The new proposed tool is used to design and evaluate the project.	- The same procedure is applied as in Project B. - More information is added about the outcomes of using the new tool in comparison to the traditional method of evaluation used in Project B.

Table -81- Projects (A, B, and C) Phases

9.5 Researcher's Role

The researcher in *Project A* is an outside observer of the whole project. She has permission to meet any team member and ask trainees among employees about anything needed for data collection. The role of the researcher is to evaluate the whole project without interfering with the implementation or planning of the project. The new proposed tool is used as an evaluation method to judge project success.

The previous training session was cancelled due to some administrative issues between the relevant ministry and the training centre. A new training session was provided to replace the previous one and planned for four months involving the training centre, the coordinators of the ministry, and the trainer. The researcher is provided with all the related documents except for those concerning some financial and communication issues because of confidentiality issues. The researcher attended the training sessions and was given the opportunity to communicate with the trainer, ministry coordinators, and the participants.

For *Project B*, the researcher took the role of the observer of the implementation phase. She was given the responsibility of evaluating the project and had three employees to assist her. More flexibility is provided to the researcher who can suggest alterations to the original plan of the project, evaluate the implementation phase, and present a whole document with findings and recommendations for improving the project for next year. The traditional method of evaluation is used here, where a third-party evaluator is assigned to attend stages of the program and document their reflections about project success and future recommendations. The researcher also designed an online evaluation form to distribute to all participants of Projects B and C, and the proposed evaluation tool is used also to evaluate the project. The researcher is also responsible for discussing and delivering the final evaluation document.

In *Project C*, the researcher is the PM and has full responsibility to design and apply the project, interact with team members, assign tasks and observe progress, monitor and evaluate each phase, submit change requests, and to submit monthly reports of achievements to the TM. The researcher designed the project to meet the requirements of the proposed tool. The evaluation method of this project consists of applying the proposed tool, assigning a third-party evaluator to provide reflections and an evaluation. The differences between *Projects B* and *C* is that the researcher is designing and implementing the project according to the proposed tool. Both projects are evaluated using P_2EARL, and third-party evaluators

are assigned. Being the PM of one of the project under the case study helped the researcher in using the tool from the start and compare between the outcomes of applying it as a designing & assessing tool, and as an assessment tool only.

9.6 Case Study Procedures

9.6.1 Pre-interview Insights

- ***Interviewees' profiles.***

There were eight pre-interviews, five from *Project A*, two from *Project B*, and one from project C. The following table provides information about the interviewees.

No.	Interviewees' Codes	Project	Job Title	Years of Experience (Total)	Years in Current Role
1	Int.1	A	Receptionist	11	9
2	Int.2	A	Receptionist	7	5
3	Int.3	A	Receptionist	10	5
4	Int.4	A	Receptionist	9	4
5	Int.5	A	Supervisor	More than 15	6
6	Int.6	B	Coordinator	10	5
7	Int.7	B	Head of Department	15	4
8	Int.8	C	Coordinator	20	6

Table -82- Interviewees' Profiles

The interview questions focused on the interviewees' opinions and knowledge in many areas. Below are the specific questions:

1. *Why do you do this job?*
2. *What is the benefit of your job to society?*
3. *Do you get any complaints from your TM or customers? If so, how do you deal with them?*
4. *Do you need training to do your job?*
5. *Who is evaluating your performance? What methodology is used? What do you think of it? Is it enough for you?*
6. *Do you know what you have been evaluated on?*
7. *How often do you meet your direct manager?*

- ***Protocol of Interviews***

After obtaining formal approval from both organizations, the researcher visited general managers of two projects, A and B, to arrange pre-interviews with project teams. Meetings with general managers helped to confirm the nature of the researcher’s work and

specific dates of project implementation. General meetings were conducted with project teams to inform them about the researcher's work during the project life cycle. For project C, there was no need for such arrangements, because of the freedom given to the researcher.

9.6.2 Interviews' Qualitative Data Analysis

As explained in chapter 7, semi-structure interviews are conducted to fill in the arears that the questionnaire as a quantitative approach couldn't cover. The sample of those interviews are PMs, while the sample of the semi-structured within the three case studies are team members and PMs in order to understand the environment of the three projects. These interviews aim to compare between the findings of the interviews with the outcomes of applying the tool. Interviews are analysed in terms of the questions asked in the following categories:

1. *Job satisfaction.*
2. *Importance of job to society.*
3. *Relationship with TMs.*
4. *Support from TMs.*
5. *Evaluation process.*

In order to present the findings, a comparison was conducted between Projects A, B, and C.

Categories of comparison	Project A	Project B	Project C
Job satisfaction	Total agreement of satisfaction among (***Int.1-4)*** of their job. ***(Int.5)*** is not totally satisfied with the workload.	Less satisfaction with current procedures ***(Int.6)***. ***(Int.7)*** not satisfied compared to previous job.	-More satisfied compared to previous job due to flexibility to use variety of methods, direct connection to public, and learning new skills.
Importance of job to society	Sense of great responsibility to serve society.	Less sense of job relating to serving the country compared to other jobs.	Teach young researchers new skills, so their success is related to my efforts.
Relationship with direct managers	Total satisfaction with direct supervisor. ***(Int.5)*** is less satisfied due to the absence of direct manager.	***(Int.6)*** wants more openness with direct manager. ***(Int.7)*** finds excuses for direct manager being busy.	Trying to solve problems without relating to TMs all the time. When problems occur, try to give suggestions when needed.
Support from TMs	Rare meeting with TM. Demand more meetings. Need more financial security.	There is support, but without feedback. Long time to get approval.	There is support, but it is still limited.
Evaluation process	General annual reports are used to judge performance.	General annual reports. Quarterly performance reports.	General annual reports. Quarterly performance reports.

Table -83- Categories Comparison of Pre-interview Results

Table (83) explains the differences between interviewees' responses in five categories: job satisfaction, importance of job to society, relationship with direct managers, support from TMs, and evaluation process.

9.6.3 *Explanation of Pre-Interview Results*

- ***Job Satisfaction.***

An important indicator of the implementation of PVs in an organization, is the level of job satisfaction among employees. Below are some excerpts of interviewees' answers:

> *"I like this job because it is suitable for me and I can do it. I am the oldest among my colleagues and they always pick me out to speak up for them."* **Int.1 (Project A)**

> *"Let us be honest! To be financially secure is very important for me in this age. After that comes serving children and youth in my country, developing my skills, and feeding my ambition. Between you and me, I am considering retirement because of what I faced in my previous job that affects achieving my goals*." **Int.7 (Project B)**

> *"What I like about this job is that it is far from routine. The job gives me flexibility to try different methods and find out how effective they are*."
>
> **Int.8 (Project C)**

The level of satisfaction in *Project A* appears higher than in *Project B,* even though salaries for employees in Projects B and C are much higher than those in *Project A.* A more positive atmosphere is detected in *Project A,* while in the other two projects relationships appear strictly professional. Job satisfaction seems higher in *Project C* than in *Project B.*

- ***Importance of Job to Society.***

Below are the answers of interviewees to the question about the importance of their job to the society and whether they think it makes a significant contribution in relation to the services provided by the organization.

> *"It is very important because it facilitates hiring people and it is the first place that people see when they enter the country."*
>
> **Int.4 (Project A)**

"I think the main role that I play to benefit my society is to increase Qatari participants and overcome the challenges to encourage them to participate. It is a priority to benefit Qatari children through our services." **Int.6 (Project B)**

"I can imagine those young researchers solving the problems they are facing in the future and inventing new strategies to serve their society." **Int.8 (Project C)**

The sense of contribution to society varies between interviewees. Employees from *Project A* are passionate about expressing their importance to their country. However, employees from the other two projects are more stable and confident when expressing the importance of their role to the wider community.

- ***Relationship with TMs.***

The relationships with TMs contrasted significantly from one organization to the next. In the first organization, relationships are stronger than the other organizations in which relationships are seldom deeper than professional.

"I have a very healthy relationship with my supervisor, but when it comes to any arguments with the customers we are the ones to blame. I really wish that our managers would take our side and deal fairly with the situation." **Int.3 (Project A)**

"*I take whole responsibility for my employees if we face any complaints from my top manager. I always check the reasons behind complaints before taking any action with my employees*."

Int.7 (Project B)

"My relationship with my top manager is based on mutual respect and if there is any complaint, I try to communicate with her and find out if there are any suggestions to be applied." **Int.8 (Project C)**

From some of the answers above, there is a sense of responsibility towards the employees to protect them as seen particularly from the answer of the manager in *Project B*. The first answer of the *Project A* employee expresses the need for support when taking

responsibility for mistakes. The coordinator of *Project C* demonstrates a more mature method of cooperation when complaints occur.

- ***Support from TMs.***

The TM here means the general manager of the organization and the director of the department. For the first organization, all interviewees agreed that they need to see their TM on a regular basis and they would prefer more meetings to be conducted in which policy is explained and decisions are communicated. For the second organization, there are regular meetings between the general manager and the directors and heads of departments. Weekly meetings are conducted between directors and their staff, but they tend to skip some of them because of their workload and continuous additions to tasks in each department. Below are further extracts from the answers provided:

> *"We would prefer to have meetings with our top managers to discuss everything in a more transparent manner. We had two different managers, and it took time to adapt to their demands, especially when your manager pays a lot of attention to little details."*
>
> **Int.1 (Project A)**

> *"We would like to meet our manager and discuss with him our demands. The pressure that we are facing at work is not very easy. We cannot move or have a break sometimes*." **Int.2 (Project A)**

> *"My supervisor follows my performance all the time. Regarding the GM, we meet him from time to time. But it is not enough, we need more meetings with him."* **Int.4 (Project A)**

> "*Meetings should happen more, but the top manager is very busy and cannot meet us all every week*."
>
> **Int.7 (Project B)**

> *"The support from the director of the department is obvious and an essential element in achieving the current outcomes."*
>
> **Int.8 (Project C)**

- ***Evaluation Process.***

This question yielded similar answers among employees from both organizations. For the second organization, the new general manager demands a quarterly evaluation in addition to the annual evaluation form. This helps in keeping a credible and continuous record of employees' achievements. Excerpts from the answers to this section are listed as follows:

> "*We are evaluated on an annual basis. There is a meeting at the beginning of the year to discuss elements of the annual evaluation. There should be a praising system for rewarding employees with outstanding achievements every month or more than once a year, like employee of the month."*
>
> **Int.1 (Project A)**

> "*My direct supervisor is the one who evaluates my performance. There is an annual evaluation, which is more than enough. For the first 2 years, I was not satisfied because I did not get A, but now I am getting A so no worries.*"
>
> **Int.3 (Project A)**

> "*There are no standards for measuring their performance, but I rely on the daily records for service, attendance, effective communication with a supervisor, and attitudes toward audience*."
>
> **Int.5 (Project A)**

> *"The criteria are too general and we need something based on our actual performance and to consider each job's characteristics. Evaluating a secretary, for example, is not like evaluating a project coordinator*."
>
> **Int.6 (Project B)**

Interviews were conducted to measure clients' satisfaction about the receptionists' attitudes and services provided within the whole process. These interviews were carried out before and after the training program to explain the impact of this project on the level of clients' satisfaction.

The pre-interviews were conducted on 11 clients in the first ministry on 18th January 2017 to measure their satisfaction toward the services provided before the training program. Questions sought their opinions regarding the services provided,

clients' attitudes, the time taken to finish paperwork, and further suggestions. The following figures illustrate their responses to the questions.

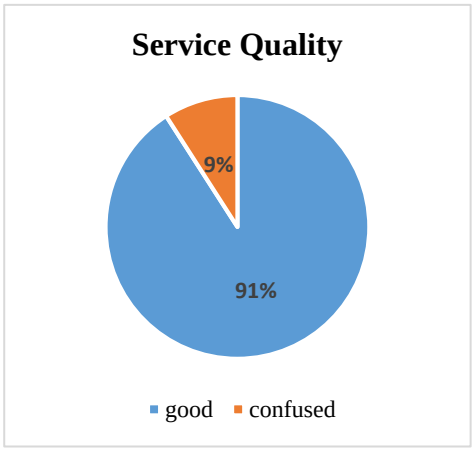

Figure -25- Satisfaction of Service Quality

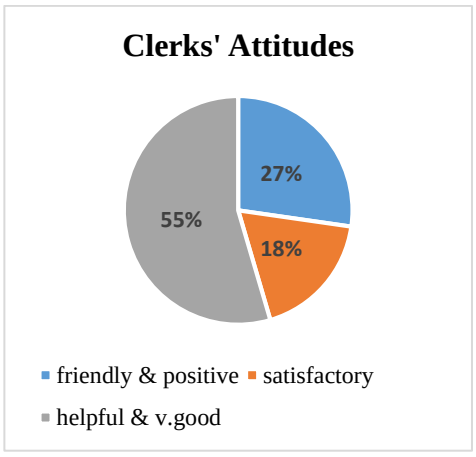

Figure -26- Satisfaction of Clerks' Attitudes

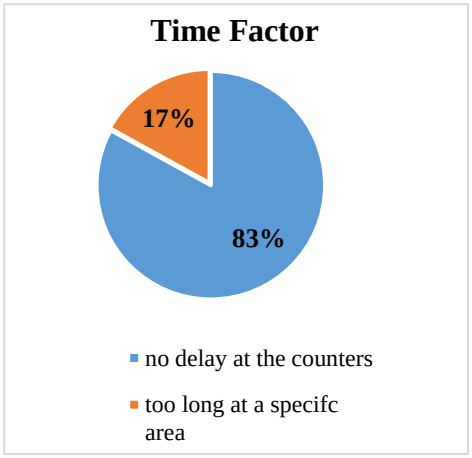

Figure -27- Satisfaction about time-factor

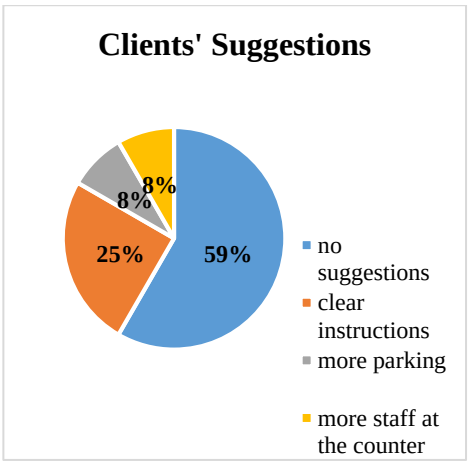

Figure -28- Satisfaction of Clients' Suggestions

As can be gleaned from the figures above, most of the sample agreed that there is no problem with receptionists' effort, but they do suffer from delay and inadequate procedures, poor parking facilities, and a lack of staff at the counters. The only thing to be demanded by the majority of the sample, is clear instructions to guide them through the process of completing required paperwork. They all agree that staff are friendly, positive, and helpful, which suggests good PV creation, but the demand of the sample to be given clear instructions and new methods to save time suggests a lack of project management implementation.

9.6.4 Application of (P²EARL)

Project Phase / CSFs	Initiating & Planning	Project A	Project B	Project C
Goals & Objectives	- *There is a contribution to society.*	- Strong.	- Moderate	- Strong
	- *The goals consider SMARTER or MASTER targets.*	- Weak.	- Moderate	- Strong
	- *There is a strong business case.*	- Weak.	- Moderate	- Strong
Performance Monitoring	- *There is a software/technique chosen to be used to monitor performance.*	- None	- Weak	- Moderate
	- *Monitoring techniques are discussed with team members.*	- Weak	- Weak	- Strong
	- *Outcomes/deliverables are specified.*	- Moderate	- Strong	- Strong
	- *There are success/acceptance criteria.*	- Weak	- Weak	- Strong
	- *Start/finish dates & total days required are specified.*	- Weak	- Moderate	- Strong
Decision-Makers	- *The project has political/top management support.*	- Moderate	- Strong	- Strong
	- *Public administrators considered involving the public.*	- Weak	- Weak	- Moderate
	- *Public administrators have participated in planning phase.*	- Weak	- Strong	- Strong
	- *Past experience & correct PMPPs choices are embedded within the plan.*	- None	- Weak	- Strong
Transformations	- *There are sufficient team members.*	- Moderate	- Weak	- Weak
	- *There is room for cross-sectional cooperation.*	- Strong	- Strong	- Strong
	- *There are equal opportunities provided to participants in the team.*	- Weak	- Strong	- Strong
	- *There is a human resource plan. (Role description charts)*	- None	- Weak	- Strong
Communication	- *Communication plan between top managers and politics/decision makers are set.*	- Weak	- Weak	- Weak
	- *There is a communication plan between top managers and PMs.*	- None	- Weak	- Moderate
	- *There is a communication plan between PM and his/her employees.*	- None	- Moderate	- Strong
	- *There is a communication plan with stakeholders.*	- Weak	- Weak	- Moderate
Environment	- *Organization's culture is considered.*	- Strong	- Moderate	- Strong
	- *Political/top management stability is maintained.*	- Weak	- Moderate	- Moderate
	- *Past experience/lessons learned culture is enforced.*	- Weak	- Weak	- Strong
Boundaries	- *There is a realistic time plan.*	- Weak	- Moderate	- Strong
	- *Project is clear & not complicated.*	- Moderate	- Weak	- Strong
	- *There are a specific number of people involved in the project.*	- Weak	- Moderate	- Strong
Resources	- *There are sufficient resources, training, easy/familiar & effective technology, and assignation of outside resources (consultants, suppliers...)*	- Weak	- Strong	- Strong
Continuity	- *Risks are specified.*	- Weak	- Weak	- Strong
	- *Plans for public involvement during the project are specified.*	- None	- Weak	- Strong
	- *Possible future use & final product is specified.*	- None	- Moderate	- Strong

Table -84- Phase One-Initiating & Planning

Project A makes a strong contribution to society since it helps receptionists to understand the importance of their job and enhance their attitudes towards the services provided. This type of project involves direct interaction between staff and the public. In spite of this strong contribution to society, there is no business case nor are there clear and specific goals and objectives. Meanwhile, *Project B* has a clearer plan and objectives, but its contribution is not as important to society as *Project A*. *Project C* used to make a moderate

contribution to society compared to *Project B*, but the PM added new important requirements where the competitors or participants are asked to make sure that their research adds to the community by enhancing services provided, depending on the topics suggested. As explained earlier in this chapter, both *Projects B and C* have the same original plan, but PMs are given the chance to develop their plans according to the characteristics of each competition. *Project B* demands that participants contribute with poems and short stories written by them about general topics, while in *Project C* contributions are social researches. The PM of *Project C* specified that the main condition to accept participants entails the application of an action research plan with local organizations to enhance public services in the country.

There is a noticeable lack of project management techniques in the public sector in Qatar in general, according to the questionnaire and interview findings. So, the researcher focused on the existence of basic tools to deliver outcomes throughout the project life cycle. In *Project A*, there was immediate evidence of poor project management performance; no documents were provided to the researcher apart from the first and only meeting, conducted in May. *Projects B* and *C* use the current evaluation tool among the success criteria to monitor project progress and to measure success.

Stronger TMS is provided for Projects B and C, because the new manager insists on improving current programs and projects to beat competitors and attract more participation from the public. Therefore, the PM attended planning meetings and approved final plans. The PM of *Project B* focused more on launching the project before accomplishing a detailed plan, while in *Project C* a detailed plan was prepared, previous lessons were discussed with team members, and even a sample of previous participants were contacted to get their feedback about the latest competition.

Project A may lack financial resources when compared with the other projects, but it benefits from having more human resources. Budget expenditure in *Projects B* and *C* is higher since there are a limited number of employees, so PMs were forced to outsource.

There was also unwillingness to document risks in a specific plan with suggested tasks to be done in order to prevent possible risks. The most apparent issue was the existence of approved time plans. *Project A* has no specific time frame and was postponed for more than four months because during the initiation phase suitable attention was not paid to formal vacations and coverage.

Project Phase / CSFs	Executing	Project A	Project B	Project C
Goals & Objectives	*- Project activities lead to achieving goals.*	*- Moderate*	*- Weak*	*- Strong*
	- Perform activities to accomplish project requirements.	*-Strong*	*- Weak*	*- Moderate*
Performance Monitoring	*- Planned methods & standards are implemented.*	*- Strong*	*- Weak*	*- Strong*
	- Project deliverables, (WBS) is created.	*-Weak*	*- Weak*	*- Moderate*
Decision-Makers	*- Authorization from public managers after each stage?*	*-Strong*	*- Strong*	*- Strong*
	- Public administrators approve changes in project scope, plans, and environment.	*-Strong*	*- Strong*	*- Strong*
Transformations	*- Staff members are provided with training opportunities.*	*-Strong*	*- Weak*	*- Strong*
	- Team members are managed according to general ethics.	*-Moderate*	*- Moderate*	*- Strong*
	- Workload is distributed equally.	*-Strong*	*- Weak*	*- Strong*
Communication	*- Project communication channels are established & managed.*	*-None*	*- Poor*	*- Strong*
	- Communication plans enacted as planned.	*-None*	*- Moderate*	*- Moderate*
	- Feedback from each plan is recorded.	*-None*	*- Poor*	*- Strong*
	- Meetings took place as planned.	*-None*	*- Moderate*	*- Moderate*
Environment	*- Environmental influences are considered.*	*-Strong*	*- Moderate*	*- Strong*
	- Organizational culture is seen through competition & cooperation.	*-Strong*	*- Weak*	*- Strong*
Boundaries	*- Project data are generated to facilitate forecasting.*	*-None*	*- Poor*	*- Moderate*
	- Change requests & risk logs are submitted.	*-None*	*- Poor*	*- Moderate*
Resources	*- Resources are obtained, managed, & used.*	*-None*	*- Moderate*	*- Strong*
	- Sellers & suppliers are used.	*-Strong*	*Not applied*	*Not applied*
Continuity	*- Risks are managed & risk response activities are implemented.*	*-None*	*- Poor*	*- Strong*
	- Issued change requests are implemented.	*-None*	*- Poor*	*- Strong*
	- Lessons learned are documented & approved process improvement activities are implemented.	*-None*	*- Poor*	*- Strong*

Table -85- Phase Two-Executing

During its second phase, *Project A* faced a minor problem as the coordinators of the project were hesitant to share some information because it was confidential. The comparison between *Projects B* and *C* is clearly noted in the previous table. Since the PM (the researcher) of *Project C* designs all activities to pursue the achievement of objectives and main goals, all the objectives are met to a higher standard compared to *Project B.* For example, both PMs are given the same objectives and asked in the same periods to design a detailed plan to meet objectives, but for *Project B* the PM designed a general timetable to book slots for experts' meetings with participants. For *Project C*, the PM put together a detailed plan in which each step is explained and related to the general objectives and sub-goals. Continuous meetings are conducted to make sure that the staff are aware of the purpose of each decision taken and its relation to the main goals. Meanwhile, in *Project B*, coordinators apply orders without further explanation from their PM, to the point that they tend to call the team of *Project C* for detailed information. There is strong control and support from the general manager in revising and approving each step before applying it. But this continuous support and investigation causes a serious side effect, namely the delay in reaching an agreement on the number of

meetings to be held with the evaluation committee, the criteria for accepting final products of participants, and the concept of the final ceremony. Teams of *Projects B* and *C* share the same challenge of having an insufficient number of team members. Environmental characteristics are taken into consideration more in *Project C* during the judges' meetings with parents to gain their approval to film their children.

The PM of *Project C* tried her best to document each change request through emails and communication, in the absence of regular forms to use. The PM of *Project B* depends on meetings to submit tasks to team members without detailed emails to document the changes required. Risks are specified for the general manager from the PM of *Project C*, whereas the PM of *Project B* tends to express risks through communication with the general manager and his staff.

Project Phase / CSFs	Monitoring & Controlling	Project A	Project B	Project C
Goals & Objectives	- *Actual performance is compared against project plan.*	- *None*	- *Poor*	- *Strong*
	- *Consumers participated in evaluating the process.*	- *Moderate*	- *Poor*	- *Moderate*
Performance Monitoring	- *Performance is assessed.*	- *Strong*	- *Poor*	- *Strong*
	- *Corrective/preventive actions are identified.*	- *Strong*	- *Poor*	- *Strong*
	- *New risks are identified & approved.*	- *None*	- *Moderate*	- *Strong*
	- *Accurate information base of product completion is maintained.*	- *None*	- *Poor*	- *Strong*
Decision-Makers	- *Public administrators demand reports of product's performance.*	- *Moderate*	- *Strong*	- *Strong*
	- *Public administrators approve stages according to measured outputs.*	- *None*	- *Weak*	- *Moderate*
	- *Administer quality measurement outcomes.*	- *None*	- *weak*	- *Moderate*
Transformations	- *There are recommendations for staff development if needed.*	- *None*	- *weak*	- *Strong*
	- *There is a (weekly, monthly) reporting system.*	- *None*	- *Moderate*	- *Strong*
Communication	- *Information is provided to support reporting progress measurement and forecasting.*	- *None*	- *Poor*	- *Strong*
Environment	- *Project is monitored in terms of PMs' responsiveness to stakeholders' & consumers' needs.*	- *Strong*	- *Weak*	- *Moderate*
Boundaries	- *Public are involved in open dialogue to address risks.*	- *Weak*	- *Poor*	- *Moderate*
	- *Informed consumers of possible changes or delays.*	- *Strong*	- *Weak*	- *Strong*
Resources	- *Forecasts are provided to update current cost & schedule information & resources.*	- *None*	- *Weak*	- *Strong*
Continuity	- *Risks are well-managed.*	- *Moderate*	- *Poor*	- *Strong*
	- *Change requests are reasonable and fulfil public needs.*	- *None*	- *Moderate*	- *Strong*
	- *Implementing approved changes is monitored as they occur.*	- *Moderate*	- *Poor*	- *Strong*

Table -86- Phase Three-Monitoring & Controlling

The same problem continues to cover the third phase in *project A*, except that attendance of the training program and taking notes of the performance of the team members during this phase. From the available documents and the limited access of the researcher, there was a noticed involvement of the consumers or the trainees. A coordinator committed to attend the whole program and communicate with the trainees for any demands or requests.

Through the third phase, the monitoring and controlling process, *Project C* showed better results than the other two projects when applying the proposed tool. *Project B* failed to stick to the actual plan and even when changes occurred there were no updates given to the team. When news of changes reached the whole team, it was too late to change anything and there was no consistency in the prizes, instructions for participants, and the final ceremony program. Meetings and discussions with parents and participants were conducted on a regular

basis in *Project C*, so that alterations were applied, when needed, to maintain their satisfaction about the services provided. The project coordinator in *Project C* is trained to assess performance and to communicate with staff to decide upon possible changes to be suggested to the PM and the TM.

Since the TM is the same for *Projects B and C*, the same requirements of high-quality performance are demanded from both PMs. The continuous pressure of the busy schedule of the TM affects the number of meetings among all team members, which encourages the team members to have meetings between themselves, when suitable, to discuss the progress of the project. The PM of *Project C* did not wait for the TM to ask for progress reports, as these reports are sent every week to report risks, achievements, and inquiries. Meetings between the team members of *Project C* take the form of daily 10-minute discussions in addition to phone calls and emails.

The participants of *Projects B and C* are boys and girls aged 10 to 17. Parents showed more appreciation toward the *Project C* team as they made sure that meeting and filtering qualified participants considering the tradition of separating boys from girls in general meetings. The PM of *Project C* made sure that any changes or delays are submitted to participants through a social network (WhatsApp) to be involved in every stage and to implement transparency and open dialogue.

Project Phase / CSFs	Closing	Project A	Project B	Project C
Goals & Objectives	*- Required products are delivered & accepted by consumers.*	*- Strong*	*- Moderate*	*- Strong*
	- Update project plan with figures from Final Stage Plan.	*- None*	*- Poor*	*- Strong*
Performance Monitoring	*-Project Product Description is reviewed with consumers to gain their agreement of acceptance criteria.*	*- Weak*	*- Poor*	*- Strong*
	-Product Status Account is obtained.	*- None*	*- Poor*	*- Moderate*
	-Achievements of project benefits are measured.	*- Moderate*	*- Poor*	*- Strong*
	-Recommendations for subsequent work on products are recorded.	*- Moderate*	*- Poor*	*- Moderate*
Decision-Makers	*- There is agreement from decision makers on acceptance criteria.*	*- Poor*	*- Poor*	*- Strong*
	-Top managers are consulted if any work is needed to create an exception plan.	*- Not applied*	*- Moderate*	*- Strong*
	- Public administrators declare project closure.	*- None*	*- Strong*	*- Strong*
Transformations	*-Team members' achievement is compared against original plan.*	*- None*	*- Poor*	*- Strong*
	-There is an evaluation of team members' efforts.	*- None*	*- Moderate*	*- Strong*
Communication	*-Final outcomes are discussed.*	*- None*	*- Poor*	*- Strong*
	-Room for improvement is suggested.	*- None*	*- Poor*	*- Strong*
	-Majority agreement is taken before closing the project.	*- None*	*- Poor*	*- Moderate*
Environment	*- Final product is considered as an outcome of interaction between public managers and stakeholders.*	*- None*	*- Poor*	*- Moderate*
Boundaries	*- Stability of changes & dealing with risks are documented within the final report.*	*- None*	*- Poor*	*- Strong*
Resources	*- End Project Report discusses exact use and fulfilment of resources.*	*- None*	*- Poor*	*- Moderate*
Continuity	*-All issues have been dealt with and specified.*	*- None*	*- Poor*	*- Strong*
	-Someone is responsible for maintenance and will accept the specified product.	*- None*	*- Moderate*	*- Strong*
	-Lessons learned are passed from the project (Lesson Report).	*- None*	*- Poor*	*- Moderate*
	-Impact of product on society is documented	*- None*	*- Poor*	*- Moderate*

Table -87- Phase Four-Closing

In *Project A*, some administrative issues delayed the sharing of required information with the researcher. The closing phase for *Projects B* and *C* is the most critical since it determines the results of two evaluation methods, the traditional way which involves the application of the proposed tool and the third-party evaluators. The outcomes of the application of the proposed tool are shown in table (87).

Goals and objectives were achieved to varying degrees during the closure phase. *Project B* scores poorly in updating the plan with elements of other processes' outcomes. For this team, the documents of the project need to be more organized. There was an initial plan not updated with later processes, there are participants' lists without detailed information or

feedback after each process, and there is no documentation of risks and challenges. For *Project C*, the criteria for accepting final products for participants is distributed among the experts, young researchers, TMs, and the audience. The TM, as mentioned earlier, controls the whole project, and any changes must go through him first for approval after which it is the PM's responsibility to manage the details. The TM revised the winners' names and added another name to the winners from *Project B*, which created a conflict with experts and added to the complexity of the project.

The TM has limited control over *Project C* compared to *Project B*. The PM of *Project C* submitted all updates and shared all risks and solutions with the TMs. This helped in avoiding unwanted alteration of results on the day of the final ceremony where the results were announced, unlike *Project B*. *Project C* was conducted by the department of research & development, while *Project B* was overseen by the programmes department. The nature of the work of each department sheds light on the reasons behind the difficulties that faced *Project B*. The team in *Project C* are used to documenting every single detail because one of the basic tasks of the department is to evaluate the all of the organization's programs and activities, so they are qualified to design, assess, evaluate and document the whole project without any obstacles.

The PM of *Project C* faced minimal difficulty with employees in general and the coordinator of the chosen project, so she demanded a specific workshop to be implemented for them.

9.6.5 Post-interview Results

For *Project A*, trainees' feedback on the training program were not shared with the researcher due to some administrative issues.

After comparing the advantages and disadvantages of the old and new versions of the evaluation system, the coordinator from *Project C* stated that the old version of the project provides more time for participants to be trained, while the new version is shorter and depends on adopting judges' feedback without extensive training for young researchers. In terms of the strengths of the new version of the program, it provides a wide range of publicity for the program, the rewards are more tempting, and it deals with the latest themes of similar competitions. Some satisfaction is noted from interviewees' feedback, except regarding extensive training which remains a general concern. In terms of creating PVs, she indicates

that both versions create PVs and they will be more productive if the next season combines the positive aspects of both versions.

The participants' feedback on *Projects B* and *C* are shown in the following figure. They answered some questions about their willingness to participate again, if they gained new skills and knowledge, employees' cooperation, suitability of time and location, and if they felt entertained. All participants were sent a short online survey with six questions to answer. From 60 participants, 18 answered the questionnaire. Figures (29) and (30) present a comparison between the two groups. The level of satisfaction among participants of *Project B* is lower than *Project C*.

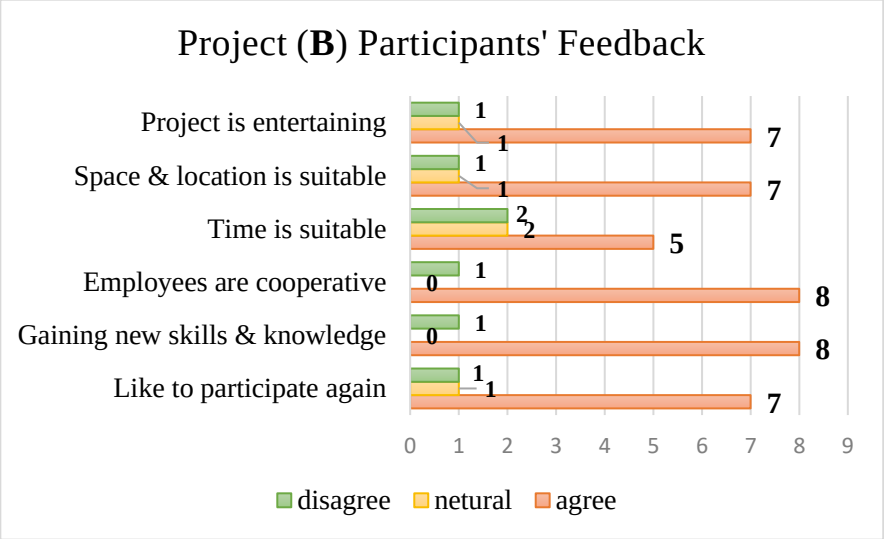

Figure -29- Project B Participants' Feedback

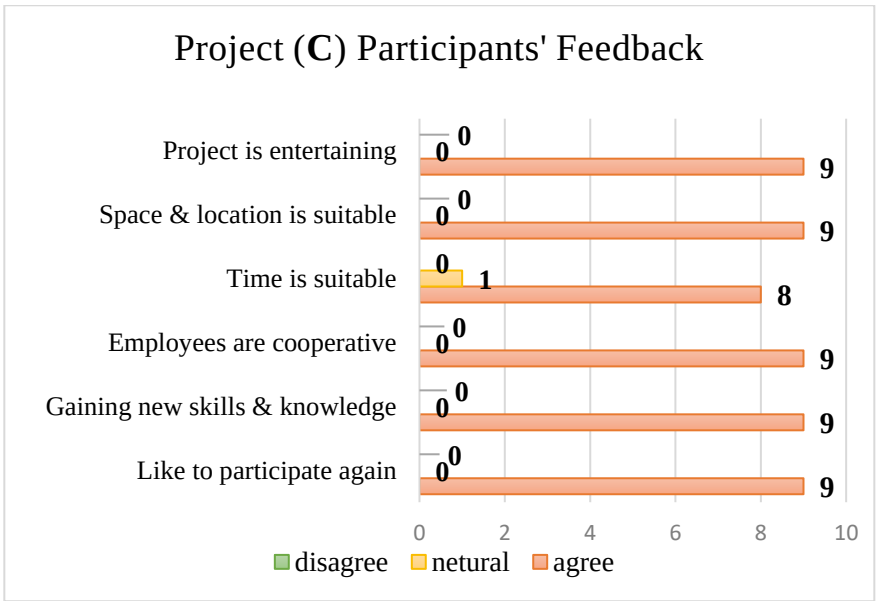

Figure -30- Project C Participants' Feedback

This apprroach of evaluating the consumers' satisfaction is well-known and used among most organisations to determine the succes of their projects. The approach is used her to avoid the bias of having the researcher as the PM of the third project. The consumers feedback provided the third party evaluation, which strengthening the usefulness of P_2EARL as an assessment tool to determine the project success.

9.6.6 Observation Findings

During the implementation of the proposed tool and the visits paid to organizations to meet and coordinate with TMs, the researcher was able to collect some reflections on the physical environment, intra-organizational & inter-organizational relationships, and the attitudes of the employees toward the public. The importance of the observations here is to add more information to environment in the organisations in term of their encouragement to create and enhance PV creation within their projects. The outcomes here is completing the whole picture that the findings of the semi-structured interviews with the team members established earlier in the chapter.

- *Physical Environment.*

Project A is located in a building that lacks space for workers to enjoy some privacy. There is a need for more office space and for the applicants to be given waiting areas. The workers need space in which to perform their prayers and have lunch. Each employee, in *Projects B* & *C*, has his/her own office space and the building was recently enhanced with a new cafeteria, more parking spaces, and an outdoors seating area. These changes followed three months after the appointment of a new general manager, who met with each employee and analysed their needs. Workers are satisfied with the changes, and the level of formality and professionalism is more obvious when compared with the other organization.

- *Intra-organizational Relationships.*

The relationships among workers in *Project A* are much stronger, as the supervisor and staff share a positive relationship, which was obvious when the researcher asked about their relationships. In Projects B and C, these relationships were not obvious from the first visit, since they depend more on formal work relationships.

- *Inter-organizational Relationships.*

These relationships are those between organizations in a specific project or program of similar interest or shared value. For *Project A*, the ministry cooperates with a private training centre to provide six different training workshops. The relationship between the

private training centre and the ministry is built upon trust to provide a certain level of training that builds upon previous experience. In *Projects B* and *C*, there is cooperation between a private company when filming the whole program, judging sessions, interviews with participants, and the final ceremony.

- *Employees' Attitudes.*

In *Project A*, the friendly atmosphere among staff is translated to the customers, which was seen during the observation and from the pre-interview results. In *Projects B* & *C*, the atmosphere during the evaluation sessions is more spontaneous and there is freedom given to participants to walk around and practice when required.

9.7 General Discussion of Case Studies' Results

The role of the PM in the public sector is governed by establishing the *'ability to achieve outcomes while providing traceability, transparency, and accountability*'. Public organizations must produce values of transparency and accountability and at the same time apply policy and improve services effectively (Crawford and Helm, 2009; Kossova and Scheluntcova, 2015).

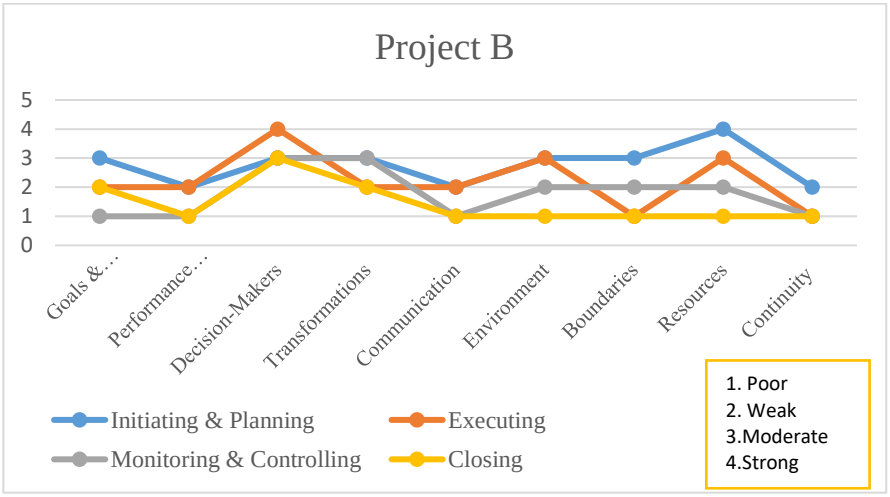

Figure -31- Results of Project B Post (P²EARL) Application

The previous figure shows that the tool's main strength is seen during the initiating & planning phase to meet the CSFs, goals, objectives and resources. During the executing phase, factors of decision-makers, environment, and resources are met to an acceptable level. The meeting of CSFs during the monitoring and controlling phase remains weak, but is still better than during the closing phase.

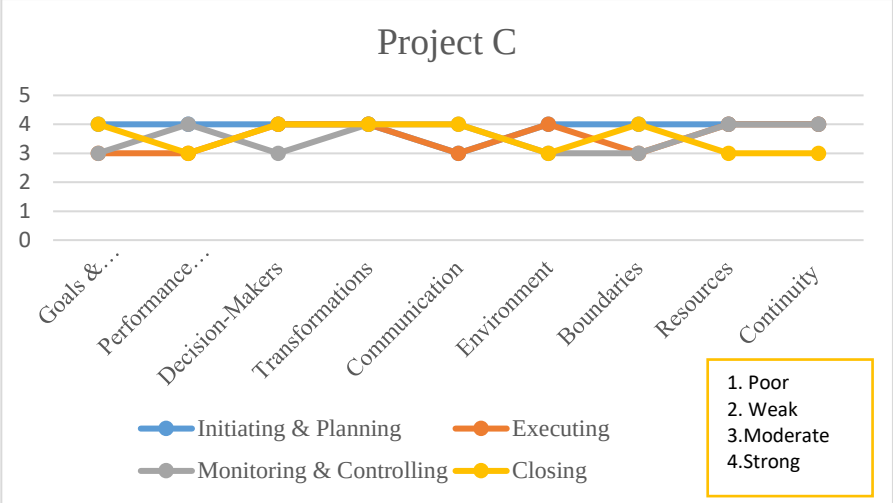

Figure -32- Results of Project C Post (P²EARL) Application

Compared to *Project B*, *Project C* achieves more stable progress in meeting the CSFs throughout the life cycle of the project. This responds to the questionnaire finding of a lack of focus on creating PVs during the executing and monitoring & controlling phases. It also refers to the importance of maintaining high-quality PMPPs with the aim to achieve and create PVs within each process.

By the end of previous chapter, the proposed tool aproved a theoritical validation of its' use by answering the questions established by Hills & Sullivan (2006) as the items of their framework of evaluating existing PV measurements. The findings from the current chapter also provide an evidane of the practicality of P₂EARL as an assessment tool for projects in the public sector in Qatar. The tool helps the PM to diagnose the strength of the PV application and the fullfillment of PMPPs, to be able of visulaize the findings, and to document the phases as a great evidance of his/her efforts in managing the project.

9.8 Summary

This chapter provided a detailed description of the projects being studied and explained the researcher's role in each project. The procedure of the three projects is explained in the interviews, including the application of the proposed tool, and the observation findings. Interviews were introduced, broken down into categories: job satisfaction, importance of their jobs to the society, relationships with TMs and customers, the support of TMs, and the evaluation process.

Chapter 10: ***General Discussion, Conclusions, Limitation, and Future Research***

10.1 Introduction

This final chapter discusses the achievement of the research goals and objectives. It also explains the contributions of the research and the significance of the chosen topic and what it really adds to the field. Lessons to be learned as the outcomes of the findings and what they implicate to the researchers and practitioners are also noted.

The limitations of the research and recommendations for future research and investigation are mentioned and discussed by the end of the chapter.

10.2 Achievement of Research Goals & Objectives.

The first objective of this research is to compile a holistic and generalizable framework of PMPPs in the public sector. This has been achieved through the discussion of previous studies in Chapters 2, 3, and 4. The literature review enabled the verification of specific facts. The most important fact is that when public projects fail to achieve their targets, this creates a great danger in terms of national growth (Chih and Zwikael, 2015). There have been calls to adapt a flexible learning-based approach to deliver services in the public sector (O'Flynn, 2007), and other calls for reliance on quality management in terms of cost and time management (Basu, 2014). These calls alert public managers to the fact that focusing and believing in PVs without measures, processes, and practices that facilitate the creation of these values is problematic.

Gomes et al. (2008) indicated that the public sector needs to update its project management practices, processes, and the theories that they apply to cope with changes. PVs can serve as performance measurement and management frameworks (Kalambokidis, 2014; Bryson, Crosby, and Bloomberg, 2014). Indeed, this motivated several researchers to try PV as a strategy such as Moore's (2013) '*Public Value Scorecard'*, Talbot's (2008) '*Competing Public Values*', Hills & Sullivan's (2006) Measurement Framework, and the RQIV Framework & Public Value Test by Coyle & Woolard (2010).

This intensive study of both fields, project management and PVs, helps to specify similarities, so the researcher can build upon these and is them for the proposed tool of

evaluating public projects. The differences between the two fields help to activate the new tool as criteria that can address the shortcomings of each field.

The second goal or objective is to develop a deductive project management assessment system or tool. The first step to develop this tool entailed taking related elements from previous literature from PVs, projects in the public sector, and PMPPs. The second step was to design a questionnaire for PMs in the public sector in Qatar. The questionnaire's formation is drawn from the literature review and the findings of the initial interviews with a sample of PMs.

The findings of the questionnaires, interviews, and the previous models and frameworks used by researchers and practitioners in the study field shape the proposed tool. The new evaluation tool is based on Bryde's PMPA Model (2003) and the conclusions drawn by Mir and Pinnington (2014) when they applied the model on PMs in the United Arab Emirates. It is also based on Moore's (1995) PV Theory as the main theoretical background with guidelines provided by Jorgensen and Bozeman (2007) in their PVs '*Inventory*'. For the processes and practices of project management, the PMBOK® Guide (2013) and Bentley's (2015) PRINCE2 Guide for Practitioners are used. The interviews and the questionnaire answered the first and second questions of the study: '*What is the current application of Public Value in project management practices and processes in public sector?',* and *'How can PV be used as an assessment tool for public sector projects?'.*

The final objective is to evaluate the proposed assessment tool through observation, qualitative and case study research. Three projects were chosen for case study research, the first is from a governmental ministry and the others are from a semi-governmental organization. The proposed tool is used as evaluation criteria for the first project and the analysis is built upon the outcomes of the assessment process. For the second project, the tool is used as an evaluation tool also, but the difference here is that the outcomes are compared with the results of the traditional method of evaluation which is the report provided by a third-party evaluator. The third project is different as it benefits from the proposed tool as a designing, monitoring, and evaluating instrument. The outcome is compared with the third-party evaluator report. This answers the final question: '*How effective is the proposed tool?'* The results of testing the new tool at different stages of the three projects shows the variance of PV creation in them. Project C fulfils most of the CSFs and as a result creates the required PVs. The results reflect the level of PV application as being poor, weak, moderate, or strong.

The answer for the leading question: '*Is Public Value an important aspect in PMPPs in public sector in Qatar?*' can be concluded from the answers of the three sub-questions. In Qatar, the importance of achieving PV is recognized and highlighted within the application of QNDS and QNV2030. Since the establishment of the QNPM initiative in 2006, there were not any serious attempts to reinforce the importance of project management in the public sector. From the case study findings, it can be noticed that aligning PV and PMPPs in designing and evaluating public projects can form a powerful assessment tool, which can enhance the performance of these projects and create PVs.

Among the unexpected results was the reluctance of the organisation of project A to share more information, which really inforce the factor of change in the public sector and how it effects the KS process and reflecs the role of the organisational environment to support tansparency and communication. There is also the issue of distinguishing between terms and purposes of PMPPs. For example, there is a need to distribute the knowledge of evaluating and monitoring terms, that evaluation is not only conducted by the end of the year and the monitoring tools are essential to keep track of progress. The definition of PM is not yet clear and needed to be focused on in the public sector to highlight the importance of his/her role in contributing to the project success.

10.3 Contributions of the Research

As indicated earlier in the research, this research aims to find a specific evaluation tool that helps PMs in the public sector to create PVs. The study provides an alternative tool for PMs that is designed on the basis of PV and applied on real public projects. The current research contributes to the theoretical and practical fields, as discussed below in details.

- *Implication for Theory:*

This research comes as a response to researchers' calls to practice PVs and to apply research to develop and evaluate new techniques, examine successful conditions, and set the guidelines for application (Helden and Northcott, 2010; Guthrie, Evans, and Burritt, 2014). Kalambokidis (2014) indicated that PVs can serve as performance measurements themselves.

It also deals with the lack of existing measures to have been designed upon the PV concept, and the difficulty in transferring the abstract concepts of PV into a process of

operation (Hills and Sullivan, 2006). This is confirmed by Gnan, Hinna, and Monteduro (2014) in their call for the need to conduct more research about available performance measurement to assess networked organizations.

Bozeman and Johnson (2014) highlighted the limitation of public management research and PV Theory is that it really depends on the community itself. Theories in the project management field lack commonly applicable factors as indicated by Padalkar and Gopinath (2016) who call in their study to focus more on theory building. Due to the nature of the PM field, researchers like Matinheikki et al. (2016) indicate that traditional and known planning methods of project management are not recommended if the target is to manage value creation. So, for any project management tool to be effective it should be altered with the objective of creating a value, which depends mainly on the project or program goals in relation to the organization's main vision and mission.

- *Implications for Practice:*

Public managers are required to provide evidence of creating values. There are essential factors to measure PVs, and managers have to achieve their goals in an efficient and effective manner (Moore, 1995). The current research aims to help the public manager to apply a measurable tool by which he/she can defend his/her work in a way that suits the nature of the public sector where profit is not only financial. It also provides a new assessment tool that tries to involve modern best practices and data aligned with a theoretical background.

This research supports the initiative of enhancing public trust in government, which is referred to by the National Academy of Public Administration and the Project Management Institute, who issued a 'White Paper' suggesting the adoption of program and project management discipline to help improve governmental performance (Blair, 2015). Program and project management techniques are used to '*bridge the gap between the organizational strategy and successful business value generalization*' (PMBOK® Guide, 2013).

The approach used by the researcher in the current study supports the one used by Blomquist et al. (2010), '*Project-as-Practice*', in which they focused first on observing individual actions then generated related models and concepts according to the findings of the observations. It also confirms the need for the '*lived experience*' technique used by Van der Hoorn (2015), which helps practitioners in testing new techniques in real-life situations.

These approaches facilitate evaluating new methods in light of the effect of using them in the organization. The main contribution of the current research is developing an assessment tool, which is based on PV theory and altered according to the characteristics of the public sector. The tool P²EARL is also applied to three different projects to test its effectiveness.

A significant practical contribution is made by the P²EARL tool, which relies on using best practices from PMBOK® and PRINCE2 to ensure value creation as recommended by Laursen & Svejvig (2016). They encourage PMs to focus on joining basic knowledge offered by PMBOK® with the benefits of in PRINCE2.

10.4 Lessons Learned from the Research

The first lesson learned from the current research is that applying PMPPs in the public sector can have a huge impact on enhancing governmental performance. The outcomes of both the qualitative and quantitative methods show clearly that the PMs' demands in Qatar are not that different from what other international PMs aim to achieve. They are aware of the importance of meeting time and quality constraints and call for more communication with TMs. The skill level of the PM determines the level to which the demanded outcomes or values are achieved. This indicates the necessity of training PMs to be able to specify the values they need to achieve, and the need to design techniques to guarantee success in applying them.

Second, focusing on PV as the main component of a public project plans increases opportunities for value-oriented services. Basing all the project management procedures on creating PVs will empower all team members to achieve goals and to act with professionalism and motivation. Here, serious attention should be paid to the success criteria of public projects. Public projects need to be clearer to both PMs and the public as consumers. Areas that need more research and practice are goals & objectives, practices & processes, inputs & outputs, monitoring & evaluation techniques, and outcomes & desired values.

Third, public managers can use project management as a strong technique for documenting evidence of accountability. Public managers are happy to use new techniques that take into consideration work pressure and aim to facilitate procedures. TMs and public managers need to participate more in planning public projects, so they are aware of desired

outcomes and support PMs to focus more on creating and achieving PVs. Documenting all the steps will create a reference folder that can be a source for researchers, TMs, other PMs, and other public organizations to benefit from.

Finally, aligning project management and PVs through all phases of the project life cycle and meeting CSFs from planning stages of the project is essential for project success. The TMs and PMs must decide how to adapt the proposed tool according to the characteristics of the organization, the staff, and the vision they want to fulfil. The most important issue is to maintain a certain level of honesty and openness with the public. Information about project achievements, delays, obstacles, and alternative solutions should be shared with society, especially consumers of the services.

10.5 Research Limitations

The findings of the current study are limited, since the research is applied in Qatar and the results cannot be generalised to other countries. The theoretical framework, however, can be a starting point for other researchers who are interested in developing other suitable tools or alter the current tool to meet the requirements of their future studies. The reason to consider the developed theoretical framework as generalisable, is the fact that it is generated from the perspectives and findings of international studies and experiences of practitioners and researchers worldwide.

The current tool (P²EARL) was applied on certain types of public projects according to the findings from the questionnaire and the case studies. Projects mainly cover administrative, IT, and training sectors that are determined by the majority of the questionnaire sample. Projects which are assigned for case study research focus on developing participants' skills for different purposes.

The role of the researcher as the PM of project C can be seen as bias by some researchers, but it has been accombined with third-party evaluators to make sure it is objective. A very close study to the same methodology used is the one of Fryer, Antony and Ogden (2009), mentioned in chapter 8, in which they evaluate the project performance during different phases of the project by using a developed framework.

10.6 Recommendations for Future Research.

More research can be conducted using P²EARL on different kinds of projects such as construction, industry, finance and other domains. The tool is flexible as it can be altered and adjusted to fit into different areas, which will help PMs if enough experience and resources are available within the scope of work. The current data collection tools and the proposed assessment tool (P²EARL) can be used in other regions to test its effectiveness and to determine the possibility of reaching general agreement among public projects' characteristics, success criteria, and assessment tools.

Future research could focus on the program level since the current research discussed instead PMPPs in detail. This echoes recent calls from researchers to use program and project management techniques and methods to enhance the performance of the public sector (Blair, 2015). PPPs can be addressed also in future research to indicate the impact of (P²EARL) on other types of public projects.

Researchers can also use theories from other domains like operation or quality management, strategic thinking or planning, or even in the private sector if the focus is on creating non-financial values besides the main goal of achieving financial values. The current research aligns the project management field with PV theory from the administration field in an attempt to enrich the project management theoretical field (Padalkar and Gopinath, 2016).

This research opens up different areas for future research in terms of investigating more about the role of human factors in creating PVs using PMPPs. P²EARL was designed for the purpose of introducing a general assessment tool, so it was difficult to focus on organizational culture or communication aspects which is very important and needs further research.

Indeed, each CSF creates an interesting area for further investigation and research such as specific goals and objectives, clear boundaries & resources, characteristics of the relevant environment, monitoring instruments, decision-makers' support, and the importance of continuity and lessons learned.

Finally, a different approach can be used in terms of the tool application. The researcher can assign PMs from the research setting to apply the tool and refelct with their remarks and

suggest further adjustments if found. This will provide different insights from practitioners and can be conducted on different types of projects at t he same time.

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Appendix (1) *The Questionnaire*

Section One: Demographic Information

1. Name (optional)

* 2. Current occupation/ job title:

* 3. Organization and Country:

* 4. Age

◯ 25-30 ◯ 31-36 ◯ 37-42 ◯ 43-48 ◯ 49-54 ◯ beyond 54

* 5. Gender

◯ male ◯ female

* 6. Nationality

◯ Qatari ◯ From the Gulf Countries ◯ Others

* 7. Qualifications

◯ High School ◯ Diploma ◯ Bachelor Degree ◯ Master degree ◯ PhD degree

* 8. Years of experience as a project manager

◯ less than 3 years ◯ 3-7 years ◯ 8-12 years ◯ 13-17 years ◯ 18-22 years ◯ more than 22 years

Section Two: Projects Characteristics

This section focuses on the characteristics of a definite project that you were the Project Manager of. Choose a project (one only) and read the questions carefully before you choose the suitable answer

* 9. What is the project type?

- ◯ Administration
- ◯ Training and human resources
- ◯ Studies and researches
- ◯ Technical and IT applications
- ◯ Other (please specify)

* 10. How many team members were working under your administration?

- ◯ Less than 3
- ◯ 3-6 employees
- ◯ 7-10 employees
- ◯ 11-20 employees
- ◯ More than 20

* 11. How long did the whole project last?

- ◯ Less than a month
- ◯ From 1-3 months
- ◯ From 4-7 months
- ◯ From 8-12 months
- ◯ More than a year

* 12. Who took the decision during the project implementation/execution phase?

- ◯ Senior management
- ◯ Board of directors
- ◯ External body/committee
- ◯ Project manager (you)
- ◯ Other (please specify)

* 13. How many meetings were held during the project with the team members?

- ◯ No meeting was held
- ◯ 1-3 meetings
- ◯ 4-7 meetings
- ◯ More than 7 meetings

* 14. How many meetings were held during the project between the project manager and the senior management?

- ◯ No meeting was held
- ◯ 1-3 meetings
- ◯ 4-7 meetings
- ◯ More than 7 meetings

* 15. When was the training programme held for the members of the team?

- ◯ No training programme was held
- ◯ Team members do not need training
- ◯ At the beginning of the project
- ◯ During the project

* 16. When was the project completed?

- ◯ After the closure of the budget
- ◯ After sending the final report to the senior manager and obtain his approval
- ◯ After discussing the final document that includes the lesson learned
- ◯ By a decision made by the senior management
- ◯ Other (please specify)

* 17. Which is the most important measurement of the project success?

- ◯ Meeting the needs of the stakeholders
- ◯ Completing the project according to the scheduled time
- ◯ Complying with the allocated budget
- ◯ Achieving the goals of the organization
- ◯ Meeting the quality and the safety standards
- ◯ Other (please specify)

* 18. Who is responsible to declare the project success or failure?

- ◯ Senior management
- ◯ Board of directors.
- ◯ External body/committee
- ◯ Project manager (you)
- ◯ Other (please specify)

* 19. Which of the following tools were used during the project? (you can choose more than one answer)

- [ ] Critical Path Method (CPM)
- [ ] Work Breakdown Structure (WBS)
- [ ] Cash Flow Analysis (CFA)
- [ ] Gantt bar charts
- [ ] Cost benefit analysis
- [ ] PERT (Project Evaluation and Review Technique)
- [ ] Microsoft Project management Software
- [ ] Status Reports
- [ ] Project Schedule
- [ ] Issues log
- [ ] Lessons learned
- [ ] Risk analysis
- [ ] Other (please specify)

Section Three: Current Project Management Practices

Express your degree of agreement towards the following statements regarding the current practices of project management in your organization

* 20. Senior management is trying to develop project management practices for its impact on improving the organizational performance

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 21. Senior management facilitates hiring experts to ensure the projects success.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 22. Senior management provides training opportunities for project managers to develop their skills in supervising, planning, implementation, monitoring, and evaluation in project management.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 23. The practices of project management are chosen according to the projects' goals and purposes.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 24. The current tools used in managing projects help in completing the projects on time.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 25. The completion of the project within the planned budget is considered as a factor of success.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 26. Achieving the expected level of quality is considered as a measure of success more than the budget and timeframe planned for them.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 27. There is an explanation of the implementation, monitoring and evaluation processes to team members in the initial planning phase of the project.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 28. The team members' evaluation of the project is taken into consideration in the final evaluation process.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 29. Continuous meetings between the team members are held to discuss the progress of the project implementation according to the approved plan.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 30. There is a need to increase the budget for the projects in the public sector to improve their performance.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 31. Senior management is not always strict with the delay regarding the expected date of project completion.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 32. Senior management is taking the views and comments of the project managers seriously.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 33. There are standardized practices for project management that are used for all projects of different types.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 34. There is an incentive system for the excellent performance of project managers and team members

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 35. The failure of the projects affects the annual appraisal related to the project manager.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

Section Four: Project Management Processes

Express your degree of agreement towards the following statements regarding the current processes of project management in your organisation.

* 36. There is a plan for the project with all the deliverables, dates of activities, tasks, the budget, ...etc.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 37. There is a (WBS) Work Breakdown Structure with all the activities of the project in hierarchical order.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 38. There is a detailed description of all the project phases with an explanation of how and when to apply measurement instruments.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 39. Tools are used (such as PERT and Gantt Chart, etc.) to identify the timeline of the projects.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 40. The resource are planned to determine the types and size of human and physical resources required for each of the project activities.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 41. There is a financial budget distributed over the timeline of the project (such as the cost of a monthly budget).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 42. Quality standards, key performance indicators and checklists and definitions are provided to facilitate evaluating the results of the projects.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 43. There is a system to manage communication that includes project updates and news with an explanation of information collection and storage processes.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 44. There is an explanation of how to submit performance reports (the way to inform all members of the team on of the mechanism of reporting on the performance and the extent of progress).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 45. There is a plan to manage the risks / challenges (potential risk / challenges and determine how to address them).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 46. There is an office / unit to manage projects in order to provide assistance to the project managers during the planning, implementation, monitoring and evaluation processes.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

Section Five: Public Values

Express your degree of agreement towards the following statements regarding the Public Values in your organisation.

* 47. Senior management in your organization makes sure to take the formal approval of political parties (such as the Ministers Council) before initiating any project.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 48. Employees realize the strategic goals that the projects are built upon.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 49. The public/stakeholders' satisfaction of the final results of the projects is always included as a final element of the project evaluation system.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 50. Information is distributed after completing the project to other staff members -outside the project framework- to share knowledge.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 51. The organisation alters future projects according to the evaluation outputs to support innovation and public satisfaction.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 52. Social media and electronic communication are used to reach a larger sample of the target groups to take their feedback of the provided services/projects.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 53. There is a cooperation and exchange of experiences and information among governmental institutions during the project implementation.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 54. The organisation is transparent when delivering the results of programmes and projects.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* 55. The organisation promotes the values of the staff to deal efficiently and fairly with the target groups.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

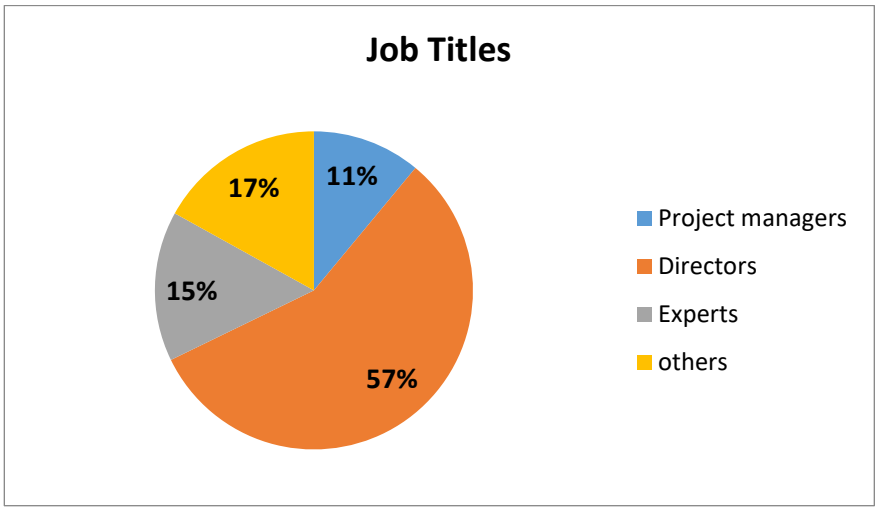
* 56. The organisation promotes the values of equality and rights protection of target groups through provided projects/services.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

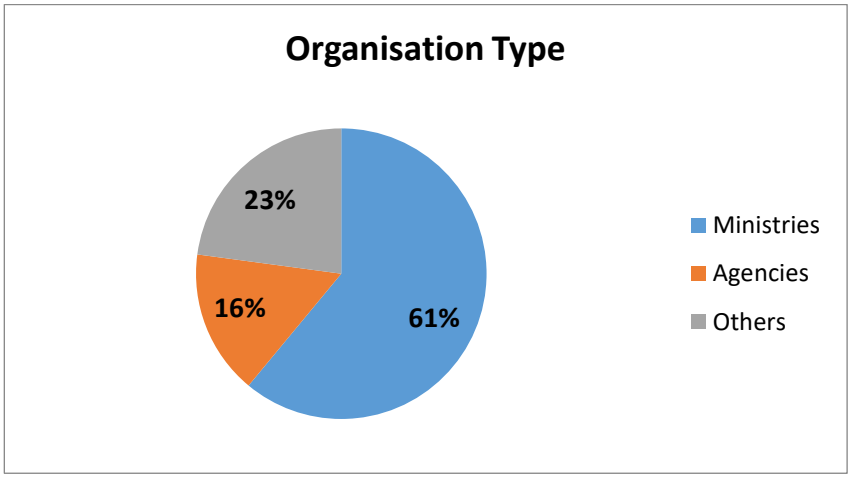
* 57. Senior management makes sure to increase productivity and competition with other institutions to provide better services.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

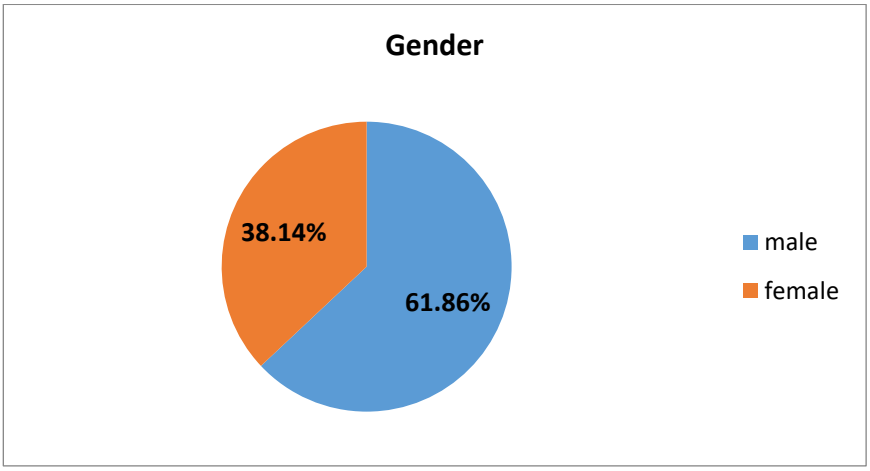
Appendix 2: *Charts*



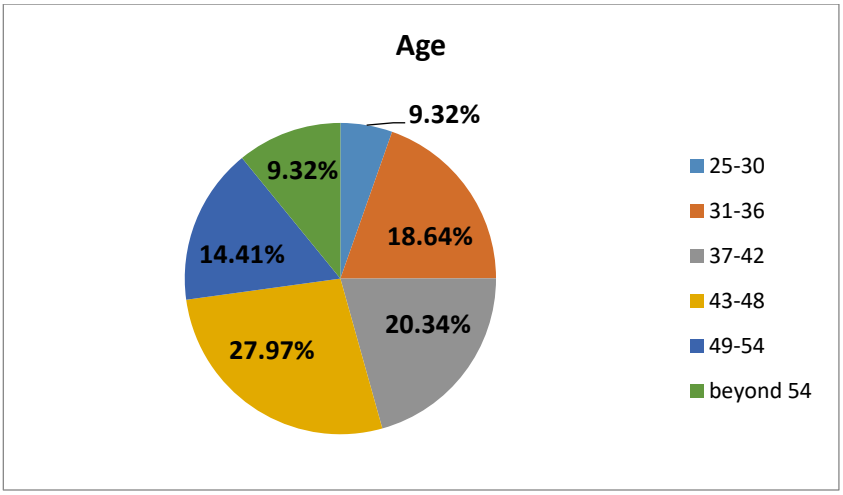
Participants' job titles



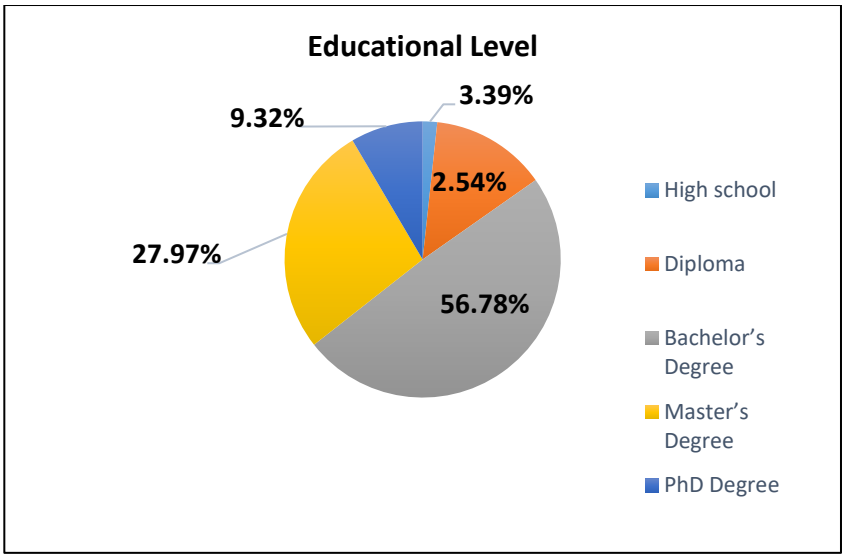
Organization type



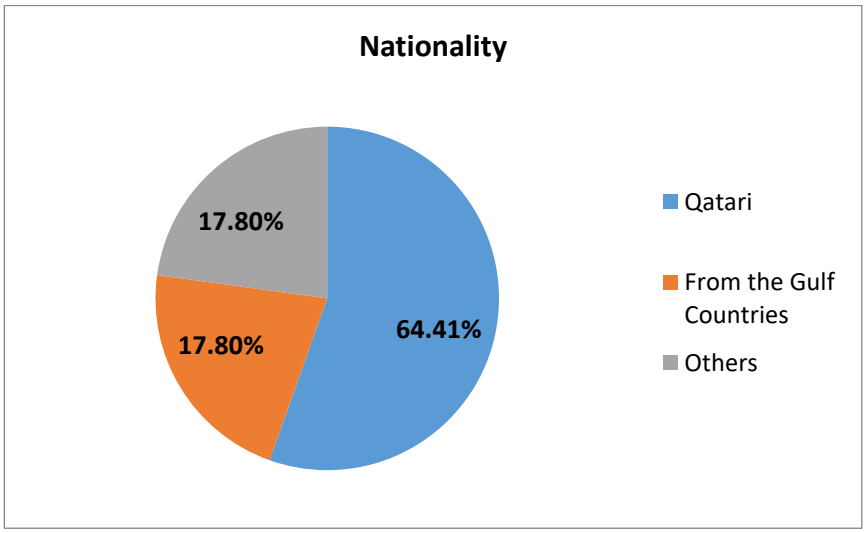
Respondents' gender



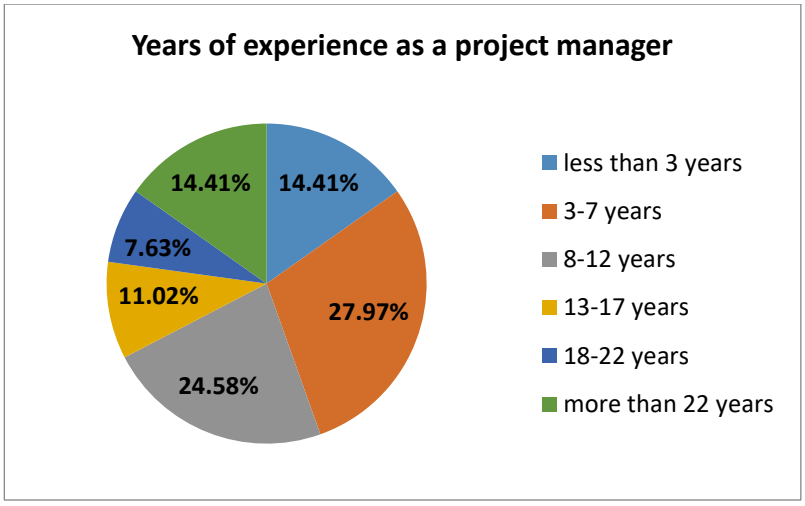
Respondents' age



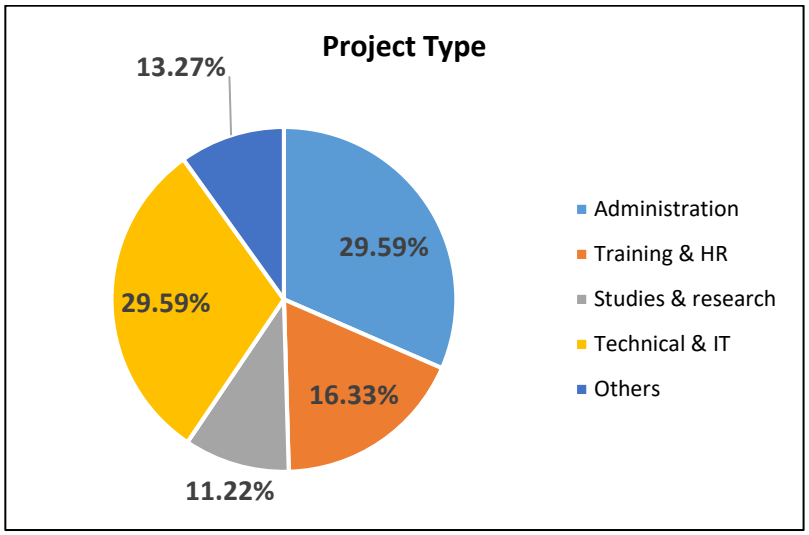
Respondents' education level



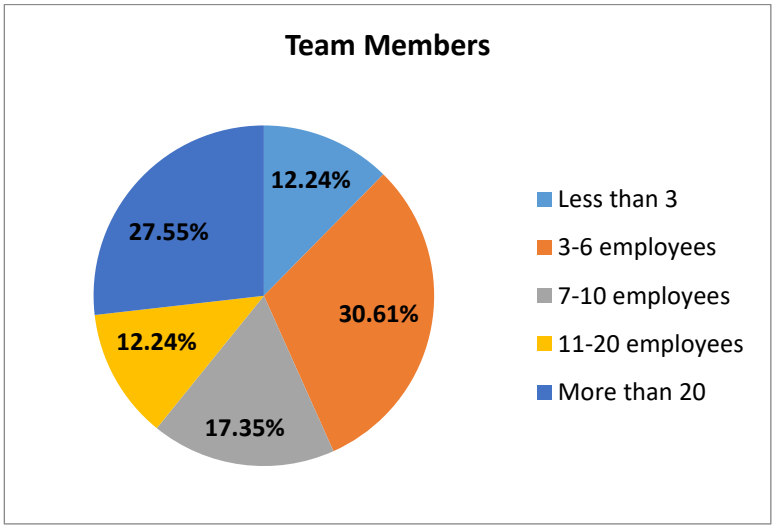
Respondents' nationalities



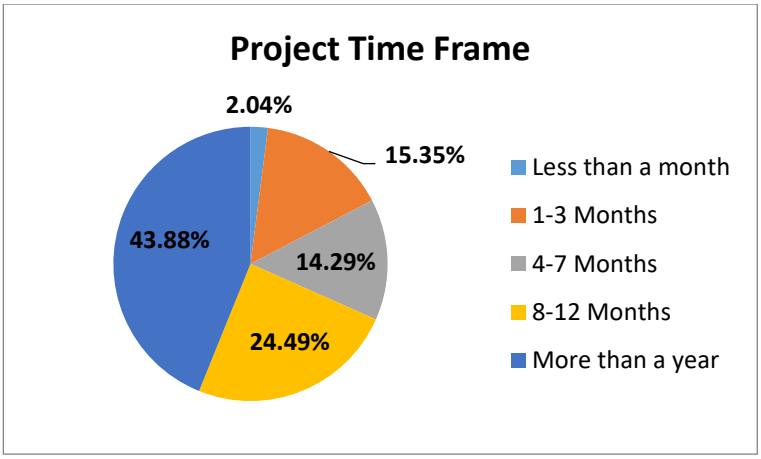
Years of experience as project manager



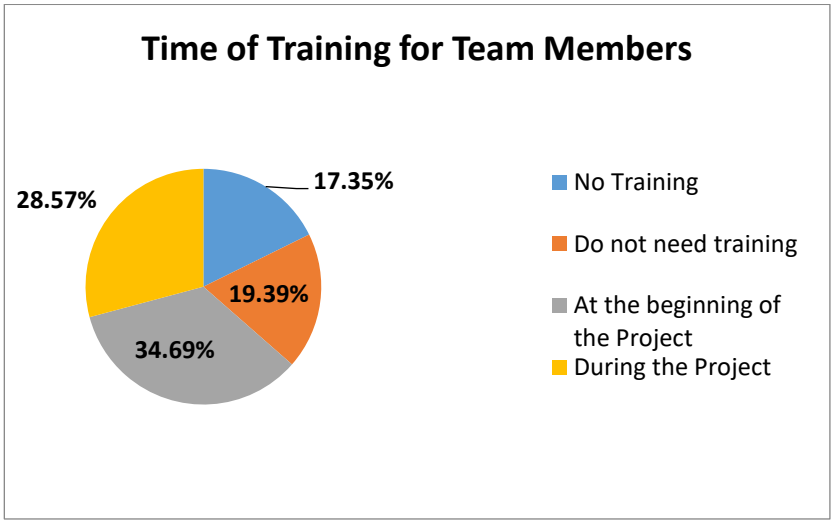
Project types in public sector.



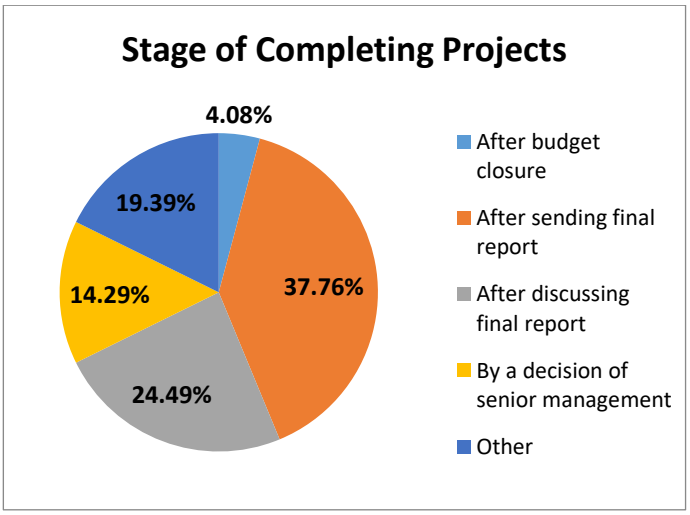
Number of team members.



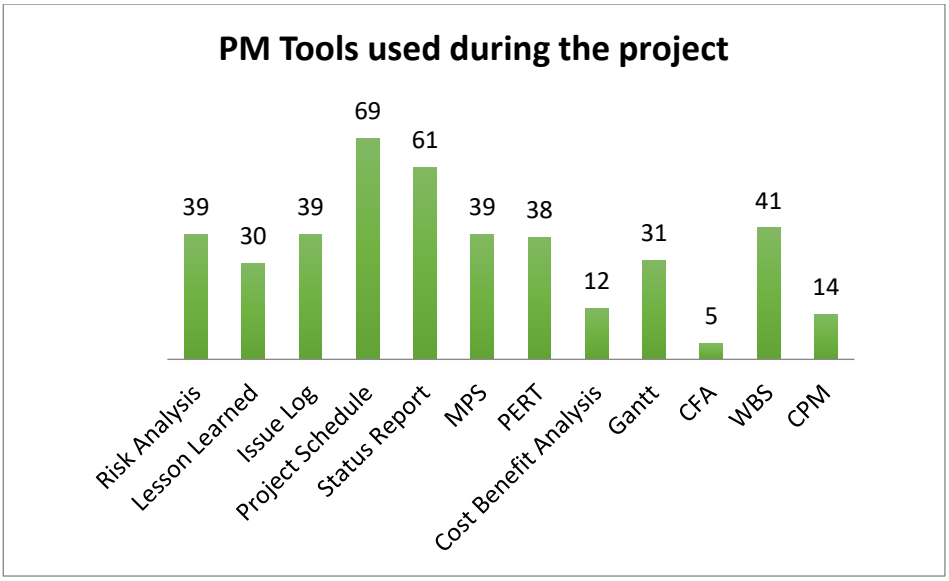
Project time frame.



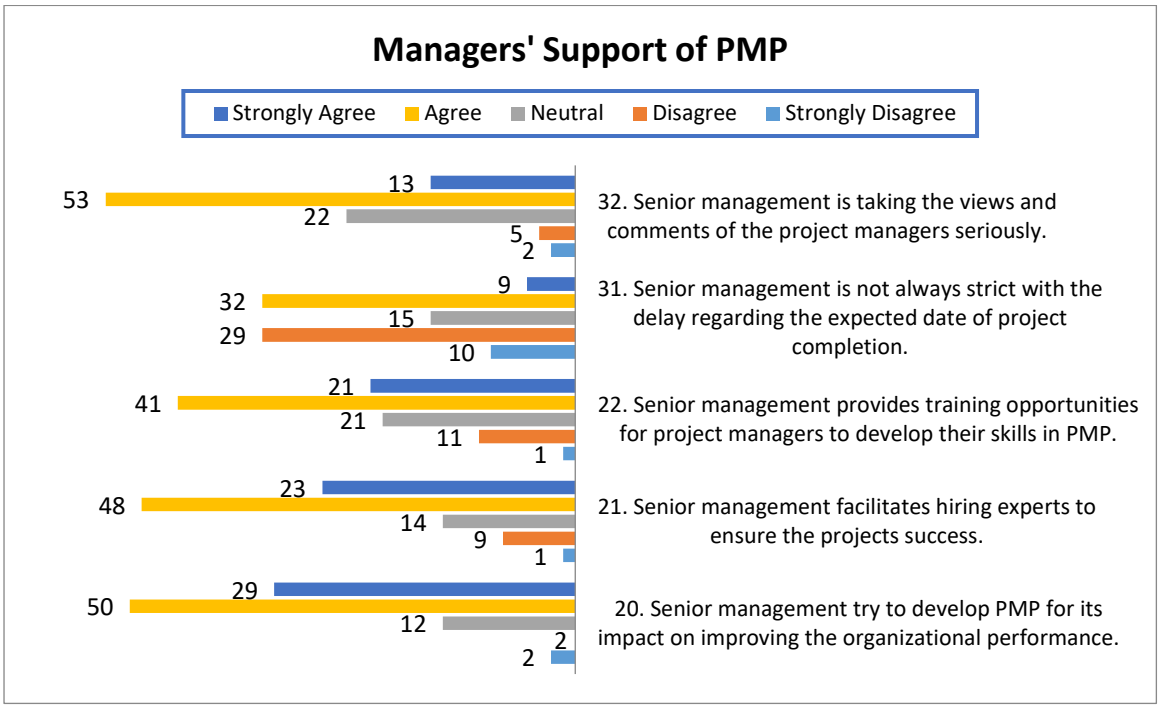
Time of training for team members.



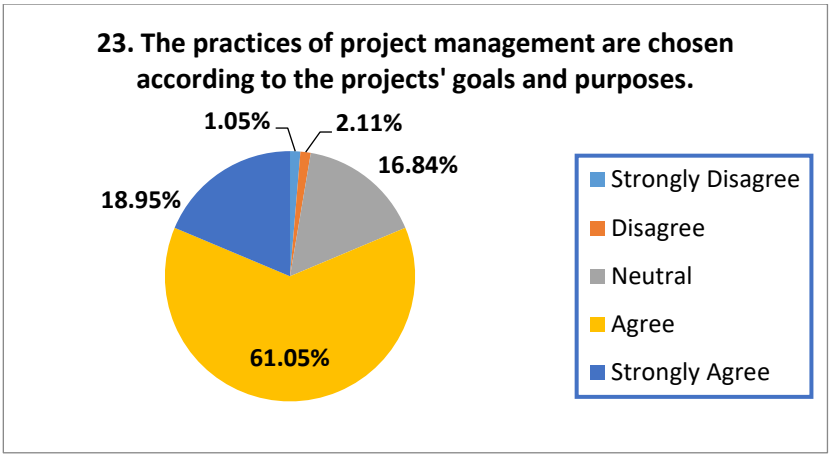
Stage of completing projects.



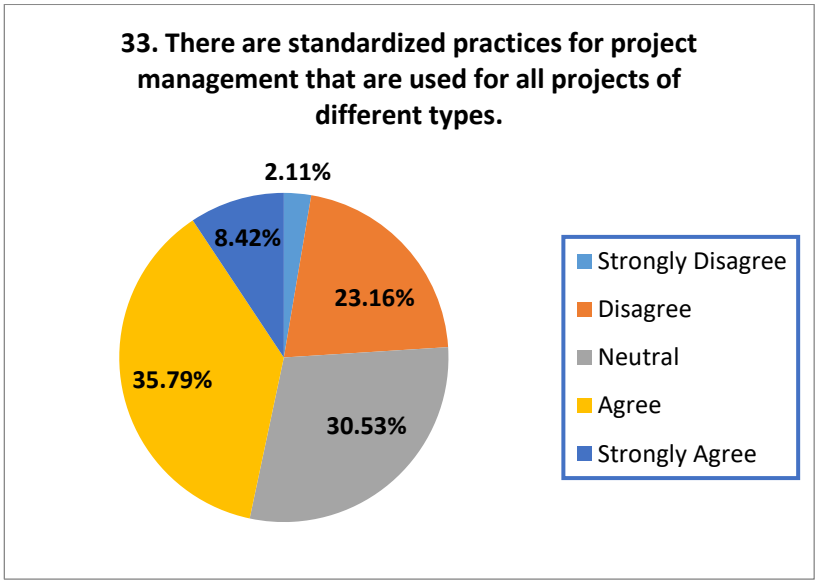
Project management tools used during the project



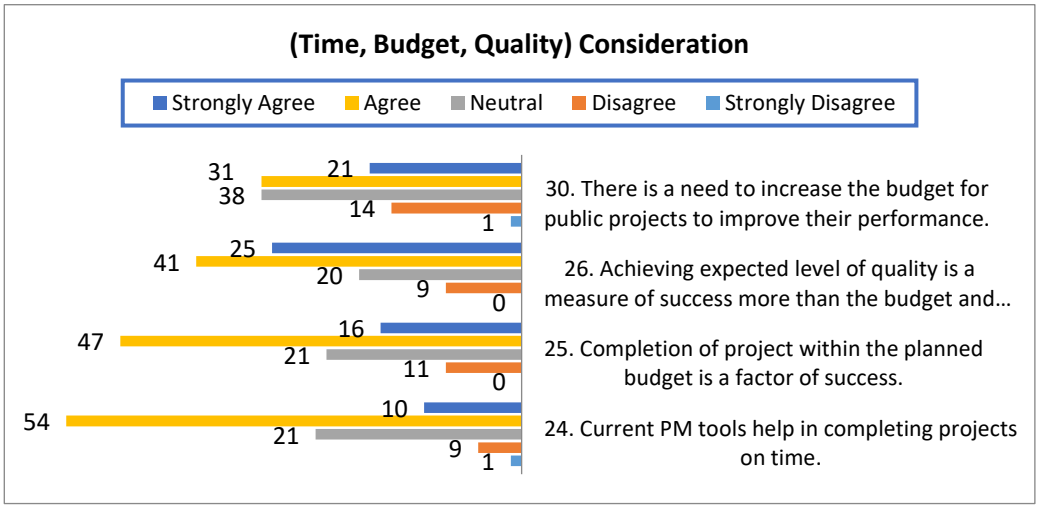
Participants' agreement about the senior management support through project management practices



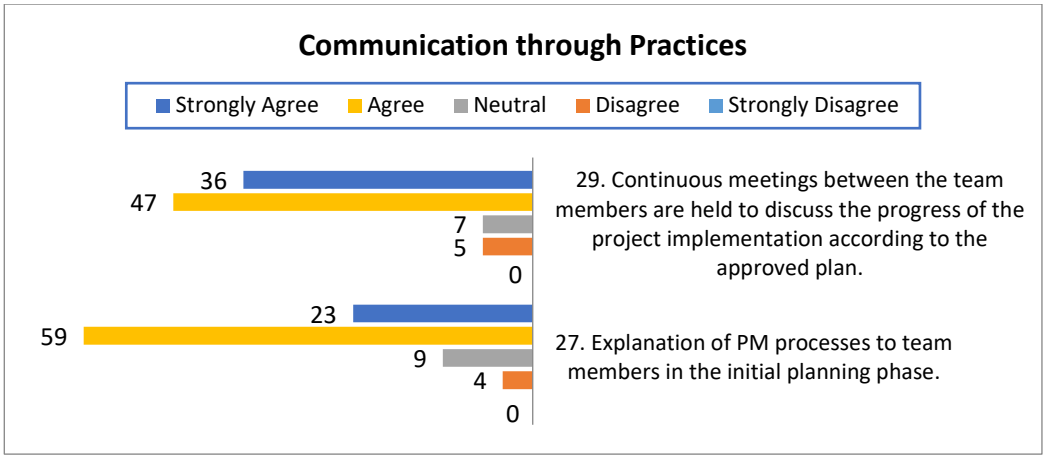
Considering goals & purposes in choosing practices



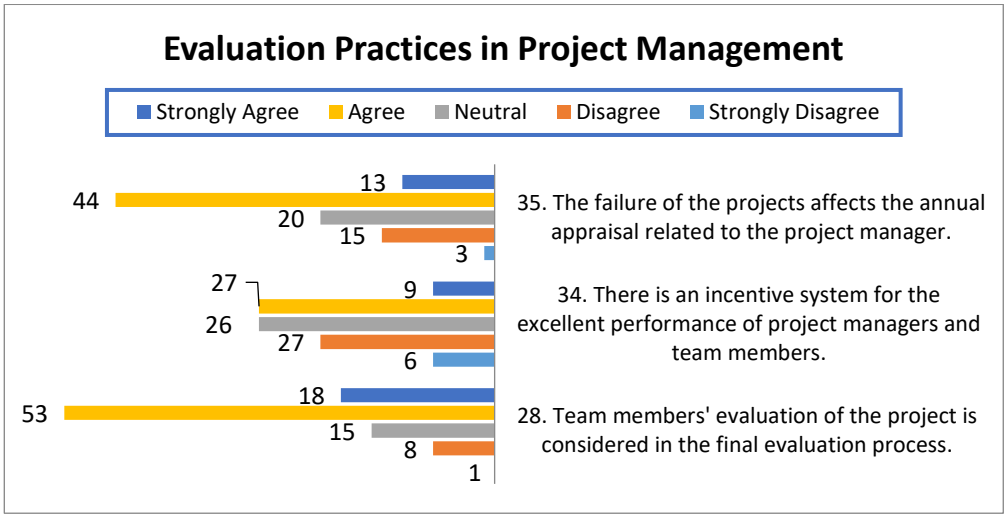
Existence of standardized practices



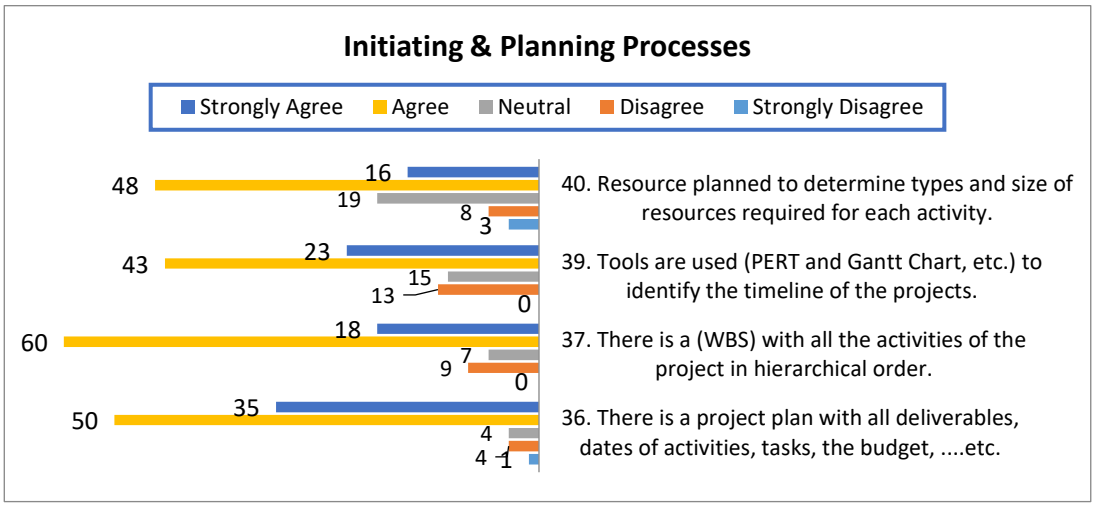
Time, budget, and quality importance in practices



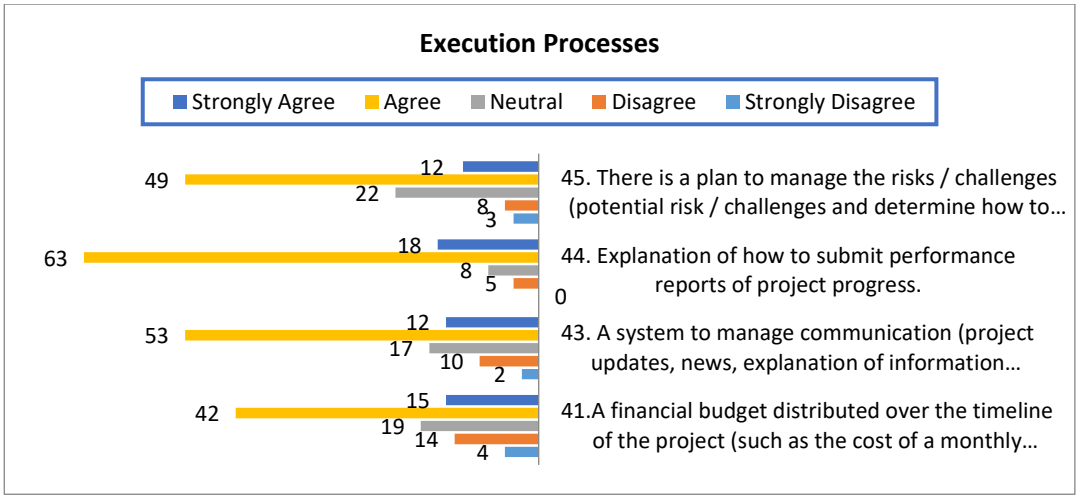
Communication through project management practices



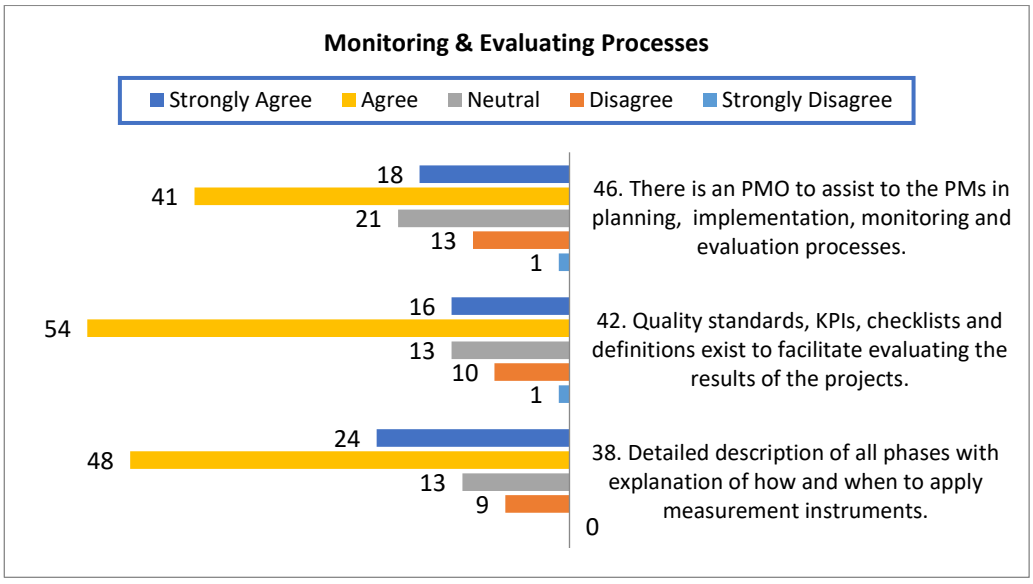
Evaluation in project management practices



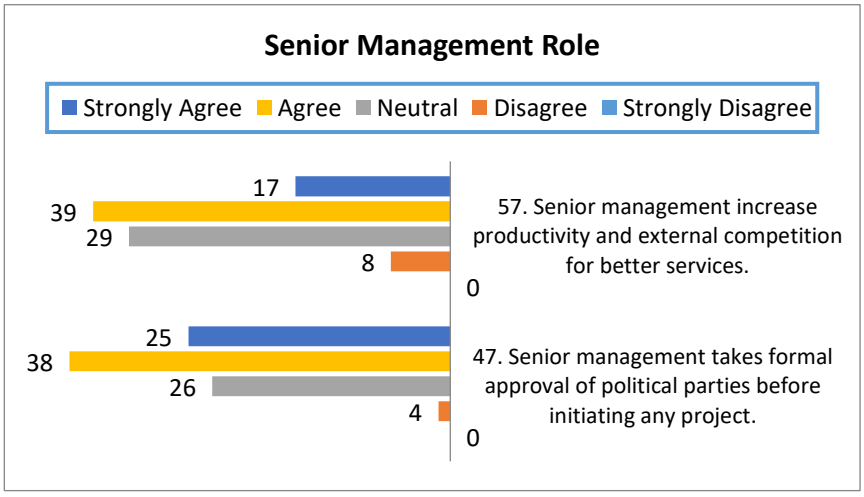
Initiating & planning processes



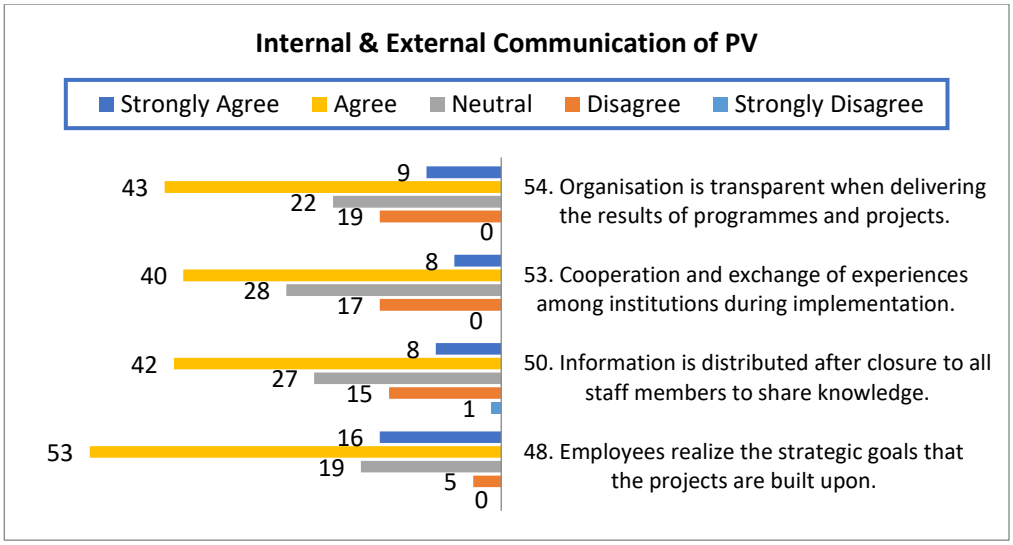
Execution processes in public sector



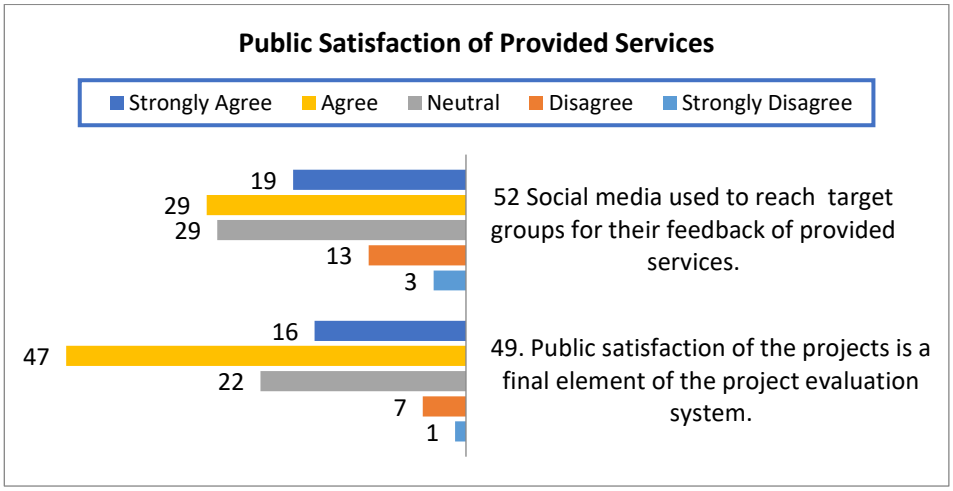
Monitoring & evaluating processes in public sector



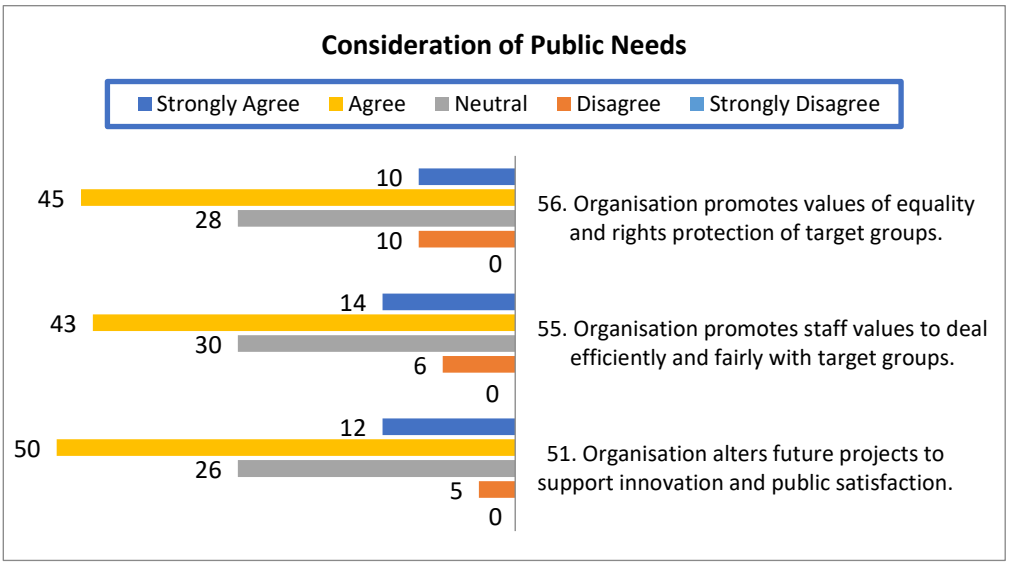
Senior management role in PVs



Internal & external communication of PVs



Public satisfaction of provided services



Consideration of public needs

Appendix 3: *Interview Questions*

- **Semi-structured Interviews Questions with PMs:**

1. What is the source of project goals and objectives?
2. Describe the process of communicating with your top management?
3. Which methodology do you use, PMBOK or PRINCE2?
4. Which current evaluation tools do you use to measure project success?
5. What kind of challenges do project managers face in public sector?
6. What are the critical success factors and success criteria that are used to measure projects success?

- **Semi-structured Interviews with team members duriing the case study:**

1. Why do you do this job?
2. What is the benefit of your job to the society?
3. Do you face any complaints from your TM or customers? How do you deal with them?
4. Do you need training to do your job?
5. Who is evaluating your performance? What is the methodology used? What do you think of it? Is it enough for you?
6. Do you know what you have been evaluating for? (criteria)
7. How often do you meet your direct manager?

- **Customers' Interviews Questions:**

1. What do you think of the services provided by the Medical Commission?
2. What do you think of the attitudes of the clerks?
3. Do they take a long time to finish your paper?
4. Any further suggestions to improve the services?