Management of project stakeholders: facilitating project success in public sector projects in Nigeria

by

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The candidate confirms that the work submitted is his own and that appropriate credit has been given where reference has been made to the work of others.

Dedication

This work is dedicated to my late parents, Mr and Mrs Isa Dabit Dakas, my first teachers who laid the foundation for this journey, and to my wife Mrs Zaliha Abdullahi Dakas for looking after the family while I was away on this journey.

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I wish I could really express in words and within this short space my deep gratitude to the people and organisations that have made this journey possible and successful for me. These include family, employers, colleagues, sponsors, supervisors, participants, and many more that cannot be mentioned all.

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Abbreviations and acronyms

Admin	Administration
APMBoK	Association for Project Management Body of Knowledge
BC	Behavioural Competence
BOS	British Online Survey
CDS	Closed Discovery System
CC	Contextual Competence
CPD	Continuing Professional Development
Const	Construction
CSFs	Critical Success Factors
DVCs	Deputy Vice-Chancellors
DPP	Directorate of Physical Planning
ETC	Electronic Testing Centre
ED	Estate Department
IDEF	Integration Definition
IGR	Internally Generated Revenue
IPMA	International Project Management Association
KPI	Key Performance Indicator
LCPM	Life Cycle Project Management
LCE	Life-Cycle Engineering
LNG	Liquefied Natural Gas
LAD	Literature-Assisted Discovery
LBD	Literature-Based Discovery
LRD	Literature-Related Discovery
LRDI	Literature-Related Discovery and Innovation
LPO	Local Purchase Order
MS	Microsoft
NEPA	National Electric Power Authority
NIPP	National Integrated Power Projects
NUC	National Universities Commission
NGOs	Non-Governmental Organisations

OGC	Office of Government Commerce
ODS	Open Discovery System
ODS LBD	Open Discovery System Literature-Based Discovery
PV	Payment Voucher
PMI	Project Management Institute
PESTLE	Political, Economic, Sociological, Technical, Legal and Environmental
PHCN	Power Holding Company of Nigeria
Post-Const	Post-Construction
Pre-Const	Pre-Construction
PM	Project Manager/Project Management
PMBoK	Project Management Body of Knowledge
PMBOK	Project Management Body Of Knowledge
PMBOK®	Project Management Body Of Knowledge
PMIS	Project Management Information/Data System
PMP	Project Management Practice
PMP®	Project Management Professional
PRINCE	Projects IN Controlled Environments
PEs	Public Enterprises
R.E.P.s	Registered Education Providers
R & D	Research & Development
RBDAs	River Basin Development Authorities
SET	School of Environmental Technology
TC	Technical Competence
TETFund	Tertiary Education Trust Fund
TAM	Turn-Around-Maintenance
UK	United Kingdom
VC	Vice-Chancellor
WIIFM	What's In It For Me?
WBS	Work Breakdown Structure

Glossary

Key Definitions in the Thesis

This section presents positions taken in the thesis about some key terms which form the core of this thesis that may have varying definitions and may be controversial. These terms include:

- Project, which is defined in this thesis as *an endeavour undertaken by a team to achieve a desired outcome for the benefit of the project stakeholders.*
- Project management defined as *the art of directing and coordinating human and material resources through the life of a project by using modern management techniques to achieve project desired outcomes for the benefit of the project stakeholders.*
- Project success in this thesis is defined as *the delivery of a project on scheduled time, budgeted cost, specified specification/quality, and to the satisfaction of the project stakeholders.*
- Project objectives can be defined in this thesis as *those things (or outcomes) achieved to consider a project as a success.*
- Project life cycle in this thesis is defined as *the collection of generally sequential project phases whose name and number are determined by the control needs of the organisation or organisations involved in the project, and which provides means of progressive delivery of expected outputs*.
- Project management team or project management team member as referred to in the empirical results refers to *the client's organisation project managers*.
- Project stakeholder or stakeholder can be defined and recognised in this thesis as *individuals, groups, or entities represented by individuals who can affect or who can be affected by the project process or the project outcomes.*
- Project stakeholder management is defined in this thesis as *all purposeful activities towards the stakeholders to enhance project success*.

Abstract

This research is based on evidences which show that project success in public sector construction projects in Nigeria is hindered by, among other issues, poor stakeholder management. As a result, the study involved the development of a conceptual model for effective stakeholder management. Using the conceptual model, empirical studies to establish the practice of stakeholder management in Nigerian public sector projects in four public universities as case studies were carried out. The resulting data were analysed, which revealed significant weaknesses in the practice of stakeholder management. These include lack of wide and deep knowledge/understanding of the concepts of project and stakeholder management by the clients' project management teams (or research participants); non-existence of formal/systematic process of project stakeholder management; and poor system of project information/data management. Consequently, an integrated framework to ensure effective stakeholder management that would facilitate project success was developed. The integrated framework involves a seven-step stakeholder management process model, considering participants and their qualifications, techniques and outputs of the stakeholder management process and a system for project information/data management, across three-phase project life cycle. To ensure that the framework is practically applicable, it was evaluated by the expected beneficiaries of the framework and other experts familiar and involved with project and stakeholder management in the case studies, using questionnaire survey. The results of the evaluation show acceptability of the framework to effectively manage stakeholders and improve project success. However, while the framework may have been developed using data from selected universities, its principles may be applicable with prudence to other universities and other public sector projects. Further similar empirical studies using this approach or other suitable approaches in other universities and/or public sectors are required to generalise the findings and improve project success.

Chapter 1 Introduction

In this chapter the general summary of the context and content of the research is presented. These include the background to the research, describing the context of the research and statement of the research problem; the aim and objectives of the research, giving a statement of the aim of the research and the outline of the research objectives with which the research was undertaken and evaluated; the outlines of the methodologies in the achievement of the research objectives; the scope of the research, which outlines the research boundaries within the control of the researcher; the limitations of the research, showing opportunities for further research; and the outline of the chapters in the thesis, describing the contents of the individual chapters.

1.1 Background to the Research

Public sectors play dominant roles in the development of infrastructure projects of developing countries such as Nigeria. However, management of these projects poses serious challenges towards the achievement of their goals. The study of the management of public sector projects in Nigeria shows projects that are procured in environments of multiple interests and stakes, which have hampered the success of these projects at various phases of the projects' life cycles.

Available literatures have captured the quantum of the problems of public project management in Nigeria. For example, it has been reported by Anago (2002), Ballard and Wang (2002), and Eneh (2009) that several development plans, programmes or visions aimed at developing and improving the quantity and quality of infrastructure facilities for economic growth have been attempted without success. These attempts show public investment programmes in infrastructure, economic and social services in large public utilities which include telecommunication, power, steel, petrochemicals, banks, small agricultural firms, manufacturing, education, and hotels. These are estimated at 1500 public enterprises (PEs), made up of 600 in Federal Government holding and 900 relatively small in State and Local Government's holding, and were stimulated by the huge oil revenue in the 1970s (Ballard and Wang, 2002). Other such investments are reported in River Basin Development Authorities (RBDAs) (Kolawole,

1991; Priscolli and Wolf, 2009) and oil and gas and power and energy (Obadina, 1999a).

Although it is reported that these projects and programmes have been planned to succeed, and huge financial resources have been expended for their implementation (Obadina, 1999b; Ballard and Wang, 2002; Akinbade and Lalthapersad-Pillay, 2003; Stephen and Lenihan, 2007; Okereke, 2008; Eneh, 2009; Mobbs, 2009), however, in spite of the huge investments, these public projects and programmes have continued to remain unsuccessful at different phases of their life cycles (Kolawole, 1991; Obadina, 1999b; Anago, 2002; Ballard and Wang, 2002; Mohammed, 2002; Eneh, 2009; Priscolli and Wolf, 2009). The reason for this according to Ballard and Wang (2002) and Stephen and Lenihan (2007) is largely due to the actions and inactions of political leaders and administrators, public service project managers, contractors, labour unions and other pressure groups, and local communities. It is reported that, while political leaders show lack of commitment in implementing inherited projects/programmes from previous regimes; public service project managers, apart from conniving with contractors whose overriding objective is to enrich themselves without limit, poorly supervise these projects across life cycle phases; labour unions and other pressure groups sometimes put unnecessary pressure on project implementation; and local communities target public projects for destruction at any slightest dispute or crisis (Kubeyinje and Nezianya, 1999; Stephen and Lenihan, 2007; Okereke, 2008; Eneh, 2009; Mobbs, 2009; Priscolli and Wolf, 2009). It is observed that, local communities where these public projects are sited show little caution to these projects to deliver their benefits (Kubeyinje and Nezianya, 1999; Obadina, 1999a; Obadina, 1999b; Itsede, 2006; Stephen and Lenihan, 2007; Okereke, 2008; Eneh, 2009; Mobbs, 2009; Priscolli and Wolf, 2009).

Critical study of the above project problems shows issues that are implicitly related to project stakeholders. These issues include cost and schedule escalations, corruption, lack of commitment by political leaders, poor supervision, among others. As a result, managing the project stakeholders which is central to achieving project success (Jergeas et al., 2000) is at the centre of the problems. Thus, understanding the concept of stakeholder management is important to understand how to manage stakeholders and

achieve project success. McElroy and Mills (2007) defines stakeholder management as the continuing development of relationships with stakeholders for the purpose of achieving a successful project outcome. Project Management Institute (2004) and Association for Project Management (2008) define project stakeholder management as "the systematic identification, analysis and planning of actions to communicate with, negotiate with and influence stakeholders". Project stakeholder management can be defined as the process of dealing with the people who have an interest in the project, with the aim of aligning their objectives with those of the project (Moodley, 2002; Moodley, 2008).

The concept of stakeholder management aims to analyse, understand, describe and manage stakeholders (Chinyio and Akintoye, 2008). According to Jepsen and Eskerod (2009), stakeholder management is important in project management, as a project is seen as a temporary coalition of stakeholders having to create something together. The aim of project stakeholder management is to increase the chances of project success, thus, consists of all the purposeful activities carried out in connection to the project stakeholders to enhance project success (Jepsen and Eskerod, 2013). Stakeholder management is an important part of the project management process for construction and other project types (Rowlinson and Cheung, 2008; Walker et al., 2008b) and the strategic management process of an organisation (Moodley, 2002; Moodley, 2008). Construction project management focusses on the process of planning and managing the activities required to deliver a project (Morris, 1994). Stakeholder management involves the project team in a process of enabling stakeholders to identify, negotiate and achieve their objectives through active participation in the project process (Rowlinson and Cheung, 2008). Also, managing stakeholders is a skill for construction project teams (Vinten, 2000; Walker et al., 2008b), as stakeholders have the ability to influence the organisation (Moodley, 2002; Moodley, 2008). Stakeholder management is important and a key process that has significant impact on the success of a project (Young, 2006). Stakeholder management process is performed to understand the project's stakeholders; to ensure the balance between contribution and reward; for managing the stakeholders; to involve those to determine the project's goals and how success is measured (Karlsen, 2002). Several authors have proposed processes for the management of project stakeholders (Yang et al., 2011). These processes are proposed by Cleland (1986),

Cleland and Ireland (2002), Elias et al. (2002), Karlsen (2002), Preble (2005), Bourne and Walker (2006), Young (2006), McElroy and Mills (2007), Walker et al. (2008b), and Jepsen and Eskerod (2009), Yang et al. (2009), British Standard Institute (2010), Luyet et al. (2012), and Project Management Institute (2013).

Therefore the main argument in this thesis is that project stakeholder management is central to facilitating project success in the public sector in Nigeria. This argument is hinged on the fact that project success in the public sector in Nigeria, shown to be hindered by mainly cost escalations and time delays, is influenced by the actions and inactions of project stakeholders. Therefore, project success which is measured by the achievement of project objectives (cost, time, quality and stakeholder satisfaction) could be implicitly facilitated by the management of the project stakeholders.

1.2 Aim and Objectives of the Research

The aim of this research is:

To develop an integrated framework to contribute to the improvement of stakeholder management in the public sector construction projects in Nigeria.

To achieve the aim of the research, the following objectives were pursued:

(i) To develop a conceptual framework for project stakeholder management.

(ii) Using the conceptual framework in objective (i) above, to evaluate the practice of stakeholder management in the public sector construction projects in Nigeria.

(iii) Based on objective (ii) above, to analyse the strengths and/or weaknesses relating to stakeholder management in public sector construction projects in Nigeria.

(iv) On the bases of objectives (i) – (iii) above, to develop and evaluate an integrated framework to contribute to the improvement of stakeholder management in public sector construction projects in Nigeria.

1.3 Outline of Methodology

To achieve the above aim and objectives of the research, a multiple case study mixed methods approach was employed. The objectives of the research were pursued in three phases of the research, namely:

- Exploratory phase - involved the in-depth literature review that shaped the theoretical position of the research, which led to the development of a conceptual model (Objective 1). Also, a pilot test was carried out in the phase to pre-test the methods and instruments used for gathering the research data.
- Investigative phase – involved the evaluation of the practice of project stakeholder management in the public sector in Nigeria (Objective 2), by gathering empirical data from four cases. The four cases were used to investigate the practices based on the guidelines in the conceptual model, using semi-structured face-to-face interviews, telephone interviews, examination of project data/information (or documents) and observation of projects. Furthermore, the analysis of the strengths and weaknesses relating to the management of project stakeholders in the four cases (Objective 3) were carried out in this phase, by comparing the findings from the empirical data gathered with the existing literature and body of knowledge.
- Synthesis phase – the integrated framework development and evaluation phase (Objective 4), involved the use of the insights from the exploratory and investigative phases. The integrated framework was developed on the bases of Objectives 1 – 3. This was achieved from insights from the extant literature and project management best practice guides and methodology, for the development of the integrated framework. Also, the integrated framework developed was evaluated (or validated) using questionnaire survey among selected experts from the cases used for gathering the empirical data and senior academics familiar with the management of university projects.

Details of the justification for the research design and methods employed are described in Chapter 3.

1.4 Scope of the Research

The scopes refer to the areas covered in the research, which needs to be made clear since it is impossible to cover every area, without limit in a single research. Thus, it is required for any meaningful research to have boundaries. Therefore this thesis is confined within the following boundaries:

- Although the term project covers many fields and industry, this thesis and the arguments in it, as well as any other part of research associated with it is limited to only construction projects and their management.
- Also, since every research is undertaken within a context, as such the research in this thesis is based on organisational context of federal public universities in Nigeria. Although some of the principles in the thesis may be generic, however, application of some of the other principles beyond the selected cases must be done with caution.
- The research is limited to stakeholders in construction projects initiated and managed in the client organisation.
- The use of advanced information technology (IT) systems and development of decision support software will not be addressed within this thesis. The use of IT in the thesis is limited to the application of existing software.

While the author does not make claims for the conclusions beyond these delimitations, implications of the findings beyond the delimitations are drawn in Chapter 8.

1.5 Limitations of the Research

In considering the limitations of this research, the applicability of the findings from only few cases to the engineering and construction industry as a whole is vital. While it is recognised that there are several subsectors in the public sector, only one subsector (education) was selected for the research. Also, although there are several universities in the educational subsector in Nigeria, only four federal public universities were investigated. Furthermore, while it is recognised that project activities in the federal public universities affect the private sector, the study was limited to only the involvement of the private sector, where they have been referred to, not considering it as an entity in the study. Another limitation is with respect to the variety of projects that could have been investigated. Although sufficient data required for the research were gathered, however, other projects sponsored/financed by philanthropists, corporate organisations and alumni in the cases have not been included. This is because these projects are observed to be autonomous in administration and irregular in occurrence, and often separate from the organisational strategic plans of investments in the cases.

1.6 Outline of Chapters in the Thesis

While the background to the study of the research introducing the context of the research in the thesis is introduced in Section 1.1, the aim and objectives of the thesis are outlined in Section 1.2. The arguments in the thesis are structured as shown in Table 1.1 below, which describes briefly the contents of each chapter of the thesis.

Table 1.1Thesis structure

Chapter	Content
Chapter 1	This chapter provides an overview of the research, including the background to the study, highlighting the research problem, aim and objectives of the research, the scope of the study, and the limitations of the study. Thus, the chapter sets the ground for the rest of the other parts of the thesis.
Chapter 2	The chapter is a critical review of the concept of project management with emphasis on project success. Issues considered important and related to project success such as project objectives, project stakeholders and project life cycle were reviewed. In addition, the chapter reviews and describes the management of public projects in Nigeria, which shows that projects are poorly managed and unsuccessful. It concludes that the lack of success is attributed to the poor management of the project stakeholders.
Chapter 3	This chapter describes the research design and methods, as well as philosophies of research. It shows the theoretical justifications and rationale for the methods chosen to achieve the objectives of this research. The chapter also describes in detail, the strategies/approaches chosen, outlining the procedures followed to achieve the objectives of the research.
Chapter 4	The chapter explains the "Conceptual Model" developed and used as a lens to view the practice of project stakeholder management in the case studies in the public sector in Nigeria. Thus, the chapter describes the features of the conceptual model and how they were used to study the practice of project stakeholder management in the respective cases selected for the study.
Chapter 5	This chapter presents the data from the empirical study. The data which majorly were qualitative were also in small measure quantitative. These data gathered based on the Conceptual Model developed in Chapter 4 and case study approach chosen in Chapter 3 were mainly from semi-structured interviews, project documents, and project observations. Analysis of the data to determine the experience and qualifications of the research participants was undertaken. Also, the understanding/knowledge of the concepts of project and stakeholder management by the research participants as well as the project characteristics was undertaken. These analyses were critically interpreted to understand the practice of project stakeholder management.
Chapter 6	This chapter presents the analysis of the practice of project stakeholder management to determine the project stakeholder management process and the strengths and weaknesses of the practice. These were analysed by comparing the findings from the empirical studies with the extant literature and body of knowledge.
Chapter 7	This chapter presents the developed integrated framework for the improvement of the management of project stakeholders in the case studies in the public sector in Nigeria. It also shows the development of the framework, the nature of the framework and how it could improve the management of project stakeholders in the public sector. Furthermore, the chapter presents the evaluation of the framework.
Chapter 8	The chapter presents the conclusions of the thesis, stating what was set out to be done to achieve the objectives, what was done, how that was done, what was found, and the implications of the findings, and recommends areas for further research.

Chapter 2 Nigerian Public Sector Project Management and the Concept of Project Success

This research is about the improvement of project success through effective management of project stakeholders. However, in order to analyse and understand the issues in the research in more detail, the relationships between project success and project management and project success and project stakeholder management will be explored. Therefore, it is against this background that project success within the context of project management is explored in this chapter as detailed in the sections below:

- Section 2.1 reviews public sector project management in Nigeria;
- Section 2.2 presents the report of the assessment of infrastructure projects in public universities in Nigeria to highlight a typical public sector in Nigeria
- Section 2.3 presents the concept of project management;
- Section 2.4 explores the concepts of project success, project objectives and project life cycle and their relationships within the context of project management;
- Section 2.5 synthesises the research problem and issues in the management of public sector projects in Nigeria and highlights the knowledge gap which exists in the management of projects in Nigeria; and
- Section 2.6 presents the causal link between Nigerian public sector project management and project success and project stakeholder management
- Section 2.7 presents the concept of project stakeholder management in project success
- Section 2.8 is the chapter summary which provides the conclusion to the chapter.

2.1 Public Sector Project Management in Nigeria

Several attempts have been made by the public sector in Nigeria to improve and develop the quality and quantity of public infrastructure facilities (Anago, 2002; Ballard and Wang, 2002; Eneh, 2009). These efforts have been seen as necessary for the development and economic growth of the country, as infrastructures were not well developed during the colonial era (Merna and Njiru, 2002). The attempts which were

stimulated by the huge oil revenues of the 1970s spread across public investment programmes in infrastructure, economic and social services, in large public utilities, such as telecommunication, power, steel, petrochemicals, banks, small agricultural firms, manufacturing, services, hotels, health, and education (Ballard and Wang, 2002).

Also, the financial value of these and other projects have been reported to be huge. However, several of them have been abandoned or completed later than their schedules and far above their initial estimated budgets. Ballard and Wang (2002) reports that successive governments in Nigeria have spent approximately US$90 billion in public enterprises that cannot be accounted for. For example, a US$3.8 billion liquefied natural gas (LNG) facility meant to produce 7.12 billion cubic metre product per year which was 80% completed and expected to resume exporting in 1999 was not completed on schedule and budget (Obadina, 1999a). This is in addition to the huge sums of money expended on the turn-around-maintenance (TAM) of the petroleum refineries in Kaduna, Port Harcourt and Warri, which are producing far below capacity. Furthermore, it is shown that between 2003 and 2007 alone, an estimated US$10 billion was invested in National Integrated Power Projects (NIPP) which have not seen 'the light of the day' (Okereke, 2008). Ajaokuta steel complex which is the centrepiece of the steel industry in Nigeria has experienced huge cost overruns, indebtedness and delays and has still not been completed (Ballard and Wang, 2002). The National Electric Power Authority (NEPA) now Power Holding Company of Nigeria (PHCN) was at one point expected to generate 6,000 megawatt of power but was producing less than half of the estimated output (Obadina, 1999b) due to poor management.

Boele et al. (2001), Anago (2002), Ballard and Wang (2002), and Okafor (2008), Okereke (2008), Eneh (2009), and Inokoba and Imbua (2010) observe from assessment of public projects in Nigeria that, public sector clients while initiating and conceptualising projects ignore the involvement and impact of other key stakeholders, especially the end users and/or host communities where the projects are sited. Consequently, the end users and/or host communities put up resistance to the execution of these projects and/or misuse the projects, as they do not view themselves the owners even when the projects are meant for them.

Also, despite huge investments into the sector, the situations have continued to worsen by the day. The situations are further compounded by the civil and criminal violence and inter-tribal conflicts in the Niger Delta region, as well as vandalism of domestic crude oil, natural gas, and petroleum products pipelines (Mobbs, 2009). The magnitudes of these problems are enormous and transcend to affecting even the cost of production for private firms. For instance, the economy suffered an estimated additional cost of US$1 billion annually, between 1998 and 2002 due to unreliable power supply (Ballard and Wang, 2002). Civil unrest in 2006 alone cost US$4.47 billion to Nigeria's revenue (Mobbs, 2009).

Furthermore, it is reported that the poor performance of the public sector projects is attributed to poor implementation due to lack of interest and commitment by political leaders (Eneh, 2009); corruption, poor politics, lack of continuity, weak private sector support, absence or lack of due process, ethnic and political divide in the country which affects economic development (Stephen and Lenihan, 2007). Other problems reported include: lack of funds running into billions of dollars needed for repairs and replacement of ageing facilities (Obadina, 1999b) and misallocation of resources, poor technology, gross inadequate maintenance, misuse of monopoly power in various sectors resulting in unreliable service and gross inefficiencies (Ballard and Wang, 2002). Similarly, Priscolli and Wolf (2009) assert that the problems are rooted in lack of clear roles and responsibilities, lack of communication, top – down approach in dealing with stakeholders, stakeholders' non-participation, lack of autonomy and continuity in government policies, combination of regulatory and management functions, arbitrary policies and operating decisions, and poor resources allocation and management, among others.

Most public sector projects have been uncompleted at various levels due to the lack of the involvement or engagement of the stakeholders on the projects. Serious evidence of these include projects in the oil and gas sector, where lack of recognising the interest of the local communities and involving and engaging them in projects have resulted in resistance to implementation of the projects (Boele et al., 2001; Inokoba and Imbua, 2010). However, where some stakeholders have been recognised and involved, it does not cover the wide scope of the stakeholders (Boele, 1995). According to Okereke

(2008), the failure of projects cuts across all the public sectors, and the reasons are not limited to only the contractor's problem, but also include lack of proper initiation, planning, execution, monitoring and control, and closure throughout the whole life cycle phases. As a consequence, Okereke (2008) suggests the establishment of Project Management Offices (PMOs) to introduce and institutionalise modern structured project management practice.

The above presents the picture of the numerous problems associated with the management of public sector projects in Nigeria. Therefore, it can be reasoned that public sector projects in Nigeria experience poor conception/initiation, execution and use/maintenance or management in general. As such, the interpretation of the above situations reveals the complicity among various actors in the management of the public sector projects in Nigeria at different phases of the projects. The following section reviews and presents the report of assessment of the conditions of physical infrastructure in Nigerian public universities with a view to appreciate the magnitude of the effect of the above problems on projects in a typical sub-sector of the public sector.

2.2 Physical Infrastructure Projects in Public Universities in Nigeria : Report of Needs Assessment

The report of the Committee on Needs Assessment of Nigerian Public Universities (2012) reveal that, there are 701 physical development projects dotted across the universities in the country. Of this number, 163 (23.3%) are abandoned projects, some abandoned for over 15 years and 538 (76.7%) are on-going projects.

The assessment which entailed appraisal of the existing situation and what is needed for transformation of public universities in Nigeria covered 61 public universities (27 Federal and 34 States) although at the time, there were 74 public universities (37 Federal and 37 States). The assessment covered among others, physical infrastructure for teaching and learning, which include among others, lecture theatres/auditoria, classrooms, laboratories, workshops/studios/gymnasia, libraries, staff offices, and students' hostels.

The report of the assessment shows inadequacy revealing facilities being used beyond original carrying capacities. For instance, many lecturers, including professors share small offices. Also, the facilities are dilapidated, showing poor ventilation, illumination, furnishing and equipment. In addition, there are over-stretching/over-crowding of lecture theatres, classrooms, laboratories and workshops, shared by many programmes

across different faculties. Furthermore, some facilities are improvised, such as open-air sports pavilions, old cafeterias, and convocation arenas, uncompleted buildings used for lectures, workshops conducted under corrugated sheds.

Furthermore, it is revealed that the major sources of funding of the public universities are from recurrent allocation from budget allocation (68%), internally generated revenue (IGR) (16%), capital allocation from budget allocation (7%), Tertiary Education Trust Fund (TETFund) intervention (4%), research grants from budget allocation (3%), service charges (2%), and donations/aid/endowment (less than 1%). However, despite these planned sources of funding, infrastructure projects have suffered from abandonment which could be ascribed to as earlier observed, lack of interest and commitment by political leaders, corruption, poor politics, lack of continuity among other issues. Consequently, these result in cost escalations and time delays which affect the successful delivery of the projects. The sections below review the concept of project management and project success and establish the link between project management and project success, and how project success in the public sector in Nigeria could be facilitated.

2.3 Concept of Project Management

2.3.1 Definitions of project

Central to project management is success achieved through the project and project stakeholders. Therefore, before discussing project management and project success, it is important to understand the term project, which organisations use as the way of managing change (Buttrick, 2009). Several definitions of project have been given in the literature by many authors. However, there is no single universal definition for project; as the definition depends on the field and context, due to its wide usage in many fields and industries. This argument however does not preclude observing the relevance of some definitions. Some common definitions of project widely used in project management literatures include:

- "A project is any new structure, plant, process, system or software, large or small, or the replacement, refurbishing, renewal or removal of an existing one" (Wearne, 1995; Bower, 2002; Smith and Bower, 2008);
- "A project is a unique set of co-ordinated activities, with definite start and finish times, undertaken by an individual or organisation to meet specific objectives

with defined schedule, cost and performance parameters" (British Standard Institute, 2000);

- "A project is a temporary endeavour undertaken to create a unique product, service or result" (Project Management Institute, 2004);
- "A project is a unique, transient endeavour undertaken to achieve a desired outcome" (Association for Project Management, 2006); and
- A project is "a unique set of activities, with definite starting and finishing points, undertaken by an individual or team to meet specific objectives within defined time, cost and performance parameters" (Office of Government Commerce, 2008).

However, developments in project management, particularly with stakeholder issues have implications for the general application of any of these definitions. The project affects its stakeholders; so also, the project stakeholders affect the project. This implies that a project is established and accomplished, and the benefits realised, by the management of the project stakeholders (Jepsen and Eskerod, 2013). Therefore, taking into consideration the concept of stakeholder, the context of this research on project stakeholder management, and the definitions by Project Management Institute (2004) and Association for Project Management (2006), this researcher adopts a definition of project as *an endeavour undertaken by a team to achieve a desired outcome for the benefit of the stakeholders*. This definition recognises the elaborate definition of project objectives, which most definitions limit to only achieving time, cost, quality and performance specifications. However, while the achievement of those objectives is recognised as important, this research emphasises on the final outcome of the project and the acceptance and satisfaction of the outcome by the project stakeholders.

2.3.2 Project management basic principles

The contribution of project management to the development of the construction industry dates back to history. The construction industry as a global industry (Moodley et al., 2008) plays a major role in any economy by generating employment and wealth (Sweis et al., 2008). The impact of the construction industry is indicated on how nations are recognised as developed, largely due to the quality and quantity of functional projects such as infrastructure and industrial projects.

Managing projects is difficult, due to the complexity of projects as a result of the multiplicity of activities, interests, and processes (Smith, 2008). As every project has its unique goal, procurement method, stakeholders, environmental issues, and different phases and objectives in its life cycle, this explains the wide sources of uncertainty in a project. These sources of uncertainty include; lack of information, ambiguity, characteristics of project parties, trade-offs between trust and control mechanisms, and varying agendas in different stages of the project life cycle (Atkinson et al., 2006). However, aligning these activities, interests and processes to achieve the goals of projects is challenging, because project management operates in broader environment than the projects (Project Management Institute, 2002; Smith, 2008).

As a way of managing change, project management has brought changes to society, and it has become a topical subject of interest in all types of business (Young, 2000). As a vehicle for change, it has found widespread application in construction, information technology, engineering, energy, transport and defence (Association for Project Management, 2006). Other areas applying project management are banking, entertainment, human resources, leisure, event management, retail supply, disaster recovery, product launches, political conferences, and legal processes. By this, project management can be said to be applied in every field of human endeavour, through planning, organising, monitoring and control of human and material resources of a project through its life span. The aim is to achieve the goals of scope, cost, time, quality, and performance (Bower, 2002; Smith and Bower, 2008).

Project management can be understood generally as the application of knowledge, skills, tools, and techniques to project activities to meet project requirements (Project Management Institute, 2004). It derives its definition from the definition of project (Smith and Bower, 2008). Consequently, from the above definitions of project, project management is defined as “the art of directing and coordinating human and material resources through the life of a project by using modern management techniques to achieve predetermined goals of scope, cost, time, quality, and participant’s satisfaction” (Project Management Institute, 2004). The Association for Project Management (2006) defines project management as “the planning, organisation, monitoring, and control of

all aspects of a project and the motivation of all involved to achieve project objectives safely and within defined time, cost, and performance". In addition, the British Standard Institute (2000) defines project management as "the planning, monitoring, and control of all aspects of a project and the motivation of all those involved to achieve the project objectives on time and to cost, quality, and performance". Consequently, the definition of project management adopted in this research is *the art of directing and coordinating human and material resources through the life of a project using management techniques to achieve project desired outcomes for the benefit of the stakeholders*. This definition is modified from the definitions by Project Management Institute (2004) and Association for Project Management (2006) considering the context of this research.

There are structures in project management for the delivery of projects. The delivery of project, according to the Association for Project Management (2006) is achieved by:

- clarifying the need, problem or opportunity of the project;
- deciding the business case, success criteria and benefits of the proposed project;
- knowing the scope, time, cost and quality of the product;
- developing and implementing plan and ensuring that progress is maintained according to objectives;
- ensuring that the sponsor is accountable for achievement of the defined benefits; and
- using appropriate mechanisms, tools and techniques.

However, for complex capital project management, the issues are beyond just meeting time, cost and quality delivery objectives, but the development of new models, philosophies, and frameworks to link the issues and external factors (Jaafari and Manivong, 2000).

Thus, the pursuit of project success has put pressure on public sector organisations to increase efficiency in the provision of services through project-based management and formal project management methodologies (Crawford et al., 2003). The section below describes approaches applied to the management of projects.

2.3.3 Project management perspectives/approaches

Project management literature and publications show all projects as fundamentally similar when in reality, they vary and their specific management styles are different (Shenhar and Dvir, 1996; Vaagaasar and Andersen, 2007). However, the context within which projects operate and the diverse fields of application and uniqueness of every project show that the 'one size-fits-all' approach applied to dealing with every project is unobtainable (Bower, 2002; Association for Project Management, 2006; Kwan and Leung, 2009). Also, although the focus of construction project management has been dominated with the process of planning and managing complex array of activities required in delivering a construction project (Morris, 1994), however, projects the world over are concerned about stakeholder management for sustainability in delivery (Atkin and Skitmore, 2008).

Consequently, several approaches are applied in the management of projects. For instance, traditional project management deals with the management of the delivery process, i.e., time, cost and quality (proactive approach to management of projects in practice). This deals with planning and control of project processes, which promotes the making of plans at the project inception (Vaagaasar and Andersen, 2007). Practitioners and researchers see this approach from the attainment of target objective functions (the basis for most capital projects) (Jaafari and Manivong, 2000).

Conventional project management focuses on operational planning and control, ignoring the problematic sources of uncertainty in projects, which are very high and difficult to quantify. Uncertainties are associated with estimating, project parties, and stages of the project life cycle. The sources of uncertainty are not limited to potential events, but also lack of information, ambiguity, and characteristics of project parties, trade-offs between trust and control mechanisms, and different agendas in the stages of the project life cycle. Furthermore, conventional project management neglects the conception and end stages of project life cycle (or flexibility and tolerance of vagueness in 'soft' projects) and strategic aspect of projects to the detriment of effective management (Atkinson et al., 2006).

Modern project management, which started with the aerospace and defence sectors in late 1950s and 1960s spread to other areas such as construction in the 1970s, recognises professional competence certification programme as standard for measuring competence (Chen et al., 2008). This has been widely demonstrated in the Project Management Institute's (PMI's) Project Management Practice (PMP) examination and certification programme in 2000 and the International Project Management Association's (IPMA's) programme in 2001. However, management practices assumed context-independent and universal situations, making organisations to shift attention to the process of innovation (Shenhar and Dvir, 1996; Leybourne, 2007).

Project management contingency theory approach which can be used to determine the extent of fit and misfit between project characteristics and project management approach can explain project failure. This helps to determine if a project can be launched or a troubled project can be brought back on track. Furthermore, this approach which is not new to organizational research, adds to the understanding of project failure due to managerial reasons and how to use it beyond the traditional success and failure studies (Sauser et al., 2009).

Classical contingency theory which looks at how organisations adjust to the environment, evolved from late 1950s until 2005 when the concept of structural contingency on project management emerged. Subsequently, the last two decades saw the study of project management contingency theory on distinction between minor change (alpha) projects and major change (beta) projects; innovations in big business; typology for product development projects; and more recently frameworks to categorise and distinguish between project types. However, this is focused on single industry and small projects. Thus, it is important to identify unique and project-specific project management principles for different project types. However, the diversity of project management frameworks shows that there is no common framework to address and analyse project contingencies (Sauser et al., 2009).

Consequently, since projects do not exist in a vacuum; understanding of the environment of the project will help in the management and delivery of the project. These environments are both internal and external, and consist of Political, Economic,

Sociological, Technical, Legal and Environmental (PESTLE) dimensions. Noting and understanding the environment of a project helps in its successful accomplishment (Association for Project Management, 2006; Smith, 2008). Thus, there are needs for new conceptual frameworks that allow contingent and emergent conceptions involving shift from formal models and centralised directions (Crawford et al., 2003). This is the reason why research and writing in project management and project organisation have developed in the last few decades from planning-oriented approach to a degree of plurality (Söderlund et al., 2008).

Therefore from the above, project management can be viewed as the management of planned change that is directed at the unique creation of a functioning system. It also directs all the elements necessary to reach the objectives and those that will hinder the development. In addition, effective project management requires effective management of project stakeholders, although stakeholder management is not a magic cure for all project management problems (McElroy and Mills, 2007). Projects are managed with and through people to achieve objectives, and to measure and achieve its objectives, a project must have a beginning and end, hence, it has a life cycle (Wearne, 1995; Smith and Bower, 2008). It can therefore be argued that for successful project management, a project must have objectives against which the success of the project could be measured.

2.3.4 Critique of the approaches to management of projects

Research papers on project management show the project management field as more practice based than analytical or theoretical (Crawford et al., 2003). Also, more focus has been placed on the achievement of traditional objectives of cost, time and quality, thus, researchers do not see a field in project management bubbling with new ideas, except concepts already developed or refined. In addition, little or no researches have been conducted in the non-industrialised countries to determine the project management competence levels of public sector infrastructure departments (Rwelamila, 2007).

The underlying philosophy in conventional project management practices still relies largely on coordinating and managing the delivery process (Jaafari and Manivong, 2000). Also, the traditional project management theory of planning and control has been

criticised for not being reflective of the evolution of project works as that of emerging nature. The approach shows that making plans and defining competence at the outset of the project imply that reality is fairly stable, which is argued as not the case, as tasks are developed as the project progresses. Consequently, research in project management is shifting from the tool and techniques approach to more behavioural bias (Leybourne, 2007). Also, there is shift towards life cycle objective functions such as return on investment, facility operability and life cycle integration (Jaafari and Manivong, 2000). In spite of the growing use of project management practice, research on management of projects is relatively young and suffers from scanty theories and concepts, concentrating on single functional aspect of the project (Shenhar and Dvir, 1996; Crawford et al., 2003). Also, practical applications have been few and limited in scope (Crawford et al., 2003). Furthermore, the basic deficiencies in project management theory are the little distinction made between the project type and its strategic and managerial problems (Shenhar and Dvir, 1996).

Notwithstanding the various arguments, it is observed that project management concepts are not universal (Shenhar and Dvir, 1996; Muriithi and Crawford, 2003). Although most project management concepts from the Western economies dominate the standards of practice in project management (Muriithi and Crawford, 2003), their applications in other cultures require caution because of the cultural differences in values at work and social settings. Their whole application without modification to suit purpose in developing and emerging economies for successful project management have not been reflected in the results. The following section explores the concept of project success in project management to identify the suitable project management approach to ensure project success.

2.4 Concept of Project Success in Project Management

The central focus of project management in theory and practice is the achievement of project objectives which are the measures of project success. According to Bryde (2008), the discipline of project management has been dominated with “what are the influences on project success?” Traditional project management which deals with the proactive approach to management of projects is concerned mainly about the delivery process, i.e., time, cost and quality (Vaagaasar and Andersen, 2007). This is described

as the delivery of an asset (Office of Government Commerce, 2008). However, for most capital projects, a few practitioners and researchers view it from the attainment of target objective functions (Jaafari and Manivong, 2000). According to de Wit (1988), most project management literature recognise timely delivery of projects within budget and to quality/performance specifications as major objectives of project management. However, the success or failure of a project is not only dependent on good cost and schedule performance, but also on technical performance and/or mission to be performed and high level of satisfaction with the project outcome from the project's key stakeholders. In addition, the earlier concept of the success of a project is measured across the life of the project. However, the project life cycle is described as the subset of the product life cycle, which in addition to the project life cycle include operations (utilisation) and decommissioning (closedown) which are the last two phases for a product life cycle (Project Management Institute, 2000).

Recent challenges in project management show that projects the world over are concerned about stakeholder management for sustainability in delivery (Atkin and Skitmore, 2008). This is because stakeholder influences on a project vary over the stages of the project life cycle. Meeting the expectations of stakeholders (Newcombe, 2003) throughout the project life cycle is required for construction project success (Atkin and Skitmore, 2008). Therefore, to ensure project success, this researcher argues that the objectives need to consider stakeholders, and project success must be measured across the project and product life cycles. To address this, the sections below explore project objectives and project success within the project and product life cycles in project management.

2.4.1 Project success

Several positions and perspectives about project success have been argued in the literature. It is also noted that the term project success means different things to different people and is context dependent (Jugdev and Muller, 2005). Project success is both subjective and objective and varies across the project and product life cycle, and involves various stakeholders (Morris and Hough, 1987). To the sponsor, this may be the achievement of stated benefits defined in the business case. The project manager sees it from the perspective of meeting scope, time, cost and quality objectives in the

project management plan. The project management process considers time, cost, quality, technical and other performance parameters, legal, and environment as constraints, which are seen as objectives for project success. These views must be taken into account, because it is possible to have a successful project which does not deliver expected benefits or a project that delivers significant benefits but is considered a failure. Therefore, project benefits and success must be considered together (Association for Project Management, 2006).

Other perspectives of project success have been explained in the literature. For example, according to Turner (2007), there are two components of project success; project success criteria and project success factors. While project success factors (independent variables) are the elements of the project and its management which can be influenced to increase the chance of successful outcomes; project success criteria (dependent variables) are the measures (quantitative and qualitative) used to assess project success outcomes. Furthermore, project success could be viewed in relation to process and system (Atkinson, 1999). When it is measured in terms of the process, efficiency is the consideration and when it is the system, then the criteria is assessment, getting something right, meeting goals, and measuring effectiveness. A study reported in Doloi et al. (2011) suggests that, while project success could be different from one organisation to the other, the most notable measures in terms of delivery of construction project are on-time delivery, on budget delivery, acceptable quality outcomes and overall cost savings. According to Pinto and Prescott (1990) project success is multidimensional, and varies with time across the project and product life cycles (Shenhar et al., 1997).

The views on project success according to Jugdev and Muller (2005) have changed from definitions limited to the implementation phase of the project life cycle to those reflecting the appreciation of success over the project and product life cycle. A project is also considered a success if the key stakeholders from the parent organisation, the project team, and end users are satisfied with the outcome of the project (de Wit, 1986; de Wit, 1988). This last perspective captures the extension of the popular concept of project success which is limited to time, cost and quality perspective.

2.4.1.1 Definitions and perspectives of project success

Project success means different things to different people (Freeman and Beale, 1992; Liu and Walker, 1998; Chan and Chan, 2004). Thus, several definitions of project success exist in the extant literature. It is also observed by Hwang and Lim (2013) that the definition of project success has continued to evolve.

Project success is the satisfaction of stakeholder needs and is measured by the success criteria as identified and agreed at the start of the project (Association for Project Management, 2008). In another definition, Hartman (2000) defines success as the satisfaction of a project outcome by the stakeholders. The definition of project success is viewed in terms of the outcome or benefits or both. Outcome considers the delivery of the physical asset on time and cost and to the specified quality (Morris and Hough, 1987; de Wit, 1988; Pinto and Slevin, 1988a) while the benefit is concerned about the satisfaction among the project stakeholders (de Wit, 1986). It is observed by Jugdev and Muller (2005) that project managers need to understand project success definition in terms of the project and product life cycles.

Although it has been shown (as above) that several definitions of project success exist in the literature, majority of the definitions consider cost, schedule, and quality as key determinants. Table 2.1 below shows the different views of other authors in the extant literature on project success as compiled by Hwang and Lim (2013). These generally show that a project is considered successful when time, cost, quality/specifications and stakeholder satisfaction are met.

Table 2.1 Other perspectives of project success

Source(s)	Definition of success
de Wit (1986)	A project is considered an overall success if it: Meets the technical performance specifications or mission to be performed Results in high level of satisfaction concerning project outcome among: Key people in parent organization Key people on project team Key users or clients of project effort
Tuman (1986)	All project requirements anticipated and needs met with sufficient resources, in a timely manner
Ashley et al. (1987)	Results are better than expected or normally observed in terms of cost, schedule, quality, safety, and participant satisfaction
Pinto and Slevin (1987)	A successful project fulfils four criteria: Completed on schedule (time) Completed within budget (cost) Achieved all goals originally set for it (effectiveness) Accepted and used by clients for whom project is intended (client satisfaction)
Wuellner (1990)	A successful project: Completes on time, within budget, and with an acceptable profit margin Satisfies client expectations Produces a high-quality design or consulting services Limits firm's professional liability to acceptable levels
Kerzner (1998)	The success of a project is defined in terms of five factors: Completed on time Completed within budget Completed at desired level of quality Accepted by customer Customer agreeing to allow contractor to use customer as a reference
Low and Chuan (2006)	Insufficient focus on time, cost, and quality since such a definition entails a measurement of project success as too objective, difficult, and ambiguous due to disparity between project success and product success

Source: Hwang and Lim (2013)

Further views about project success abound in the literature. According to Hatush and Skitmore (1997), time, cost, and quality are the most important factors that ensure performance of projects. Doloi et al. (2011) assert that a project is deemed successful when contractors comply with time, cost and quality specifications. According to Cooke-Davies (2002), project success is viewed as the measurement of the overall objectives of a project, and project management success also known as the measurement of traditional gauges of performance is the measurement of time, cost, and quality. The traditional measurement of performance as argued by Cooke-Davies (2002) in Jugdev

and Muller (2005) looks at project success from the narrow perspective of the project manager and team rather than the broader perspective of stakeholders. Atkinson (1999) argues that taking a bigger picture view of success in terms of assessing it after delivery involves looking at the benefits or effectiveness of the project from the perspective of the stakeholder community and resultant organisation. However, Jugdev and Muller (2005) argue that limiting project success to time, cost, and scope variables simply means gaining only the operational or tactical value and not the strategic value. Project success has also been observed to be dependent on addressing the concerns of construction project stakeholders (Bourne and Walker, 2005). It is further argued that a project is successful when stakeholder needs are met, which is measured by the success criteria identified and agreed at the commencement of the project. To ensure a successful project, the requirements, expectations (which are different or conflicting) and influence of stakeholders must be managed by the project management team (Project Management Institute, 2004).

The review in this section shows that there are various perspectives of viewing and defining project success in the literature, as stated above, although most have emphasised the concept in terms of cost, time, and quality. However, the evolving concept of project success, especially stakeholder issues, shows that the concept of the "iron triangle" is outdated. Consequently, for a broad definition which takes into account the context of this research, the researcher adopts the definition of project success as *the delivery of a project on scheduled time, budgeted cost, specified specification/quality, performance and to the satisfaction of the project stakeholders*. This definition is derived from the definitions by Morris and Hough (1987) and Association for Project Management (2008).

2.4.1.2 Determination of project success

Although the concept of project success has been expressed in many ways in the literature, project objectives and project success criteria have been widely used interchangeably to evaluate and determine project success.

Project objectives include those things required to be achieved by the project, which are technical, time, cost and quality objectives, as well as other items to meet stakeholder needs (Association for Project Management, 2006). Depending on the nature of the

project and industry, the major objectives of a construction project according to Chua et al. (1999), are budget, schedule and quality. Thus the objectives of a project are for the project to be completed on time, within budget and to quality/performance specification. However, this view is simplistic, as determining the objectives of a project is more complicated than that. For example Belout and Gauvreau (2004) observe that projects usually have a wide variety of objectives, involve numerous internal and external actors, and are conducted in various activity sectors. Also, the objectives of a project vary by project type; for instance, public sector, such as space, defence, education and research; commercial, such as private sector and some Government; project life cycle phase; the level in the management hierarchy; and the stakeholders involved (de Wit, 1988). Therefore, from the above positions it can be inferred that project objectives are *those things that a project requires to achieve to consider it a success.* However, project stakeholders play a key role in defining the success criteria for measuring the success of the project, therefore their power and interest should not be overlooked (Association for Project Management, 2006).

Similarly, according to Turner (2007), project success criteria are the quantitative and qualitative measures against which a project is assessed to be considered successful. It is stated by Smith and Bower (2008) that the success of projects may depend on many criteria. As project objectives, majority of the literatures (Ashley et al., 1987; Wuellner, 1990; Kerzner, 1998; Chan et al., 2002; Low and Chuan, 2006) consider time, cost, and quality as the most common project success criteria. According to Chan et al. (2002) these criteria have been used to evaluate the performance and success of construction projects.

Sheffield and Lemétayer (2013) state that the criteria important to all projects commonly employ relatively narrow and short term criteria such as performance against time, budget and quality targets. These criteria have been designated differently, such as traditional criteria (Shenhar et al., 1997), “the iron triangle” (Atkinson, 1999), technical project performance objectives (Cleland and Ireland, 2002), short-term criteria (Jugdev and Muller, 2005), primary objectives (Smith and Bower, 2008), and basic criteria (Al-Tmeemy et al., 2011). According to Willard (2005), the basic criteria are easy and timely to measure. However, Al-Tmeemy et al. (2011) argue that these criteria are

inadequate for several reasons. For example, Shenhar et al. (1997) note that, the traditional criteria are not one homogenous dimension, since meeting time and cost (project resource constraints) is one thing and meeting quality (specifications) is another. Atkinson (1999) argues that these criteria are temporary, only measuring efficiency at the delivery stage of a project.

However, the resultant system (the product) and the benefits of the project to many stakeholders are two other criteria that could be used to measure the success of the project. Thus, among the criteria for the measurement of project's success is the satisfaction of project stakeholders (de Wit, 1986; de Wit, 1988; Belout, 1998; Lim and Mohamed, 1999), which include client satisfaction (Pinto and Slevin, 1987; Wuellner, 1990; Lim and Mohamed, 1999) and participants' satisfaction (Ashley et al., 1987; Pocock et al., 1996). Also, due to the diverse nature of construction projects, Toor and Ogunlana (2008) note that a single comprehensive list of success factors is unlikely to be developed.

There is argument that the concept of project success within the construction industry has not been well defined (Brown and Adams, 2000; Chan and Chan, 2004). This is however in spite of the several attempts to understand the concept of success and the development of frameworks for construction project success measurement (Al-Tmeemy et al., 2011). Al-Tmeemy et al. (2011) report of attempts to explore the concept of success and development of different frameworks for the measurement of success for construction projects. For instance, Lim and Mohamed (1999) show that construction project success can be viewed from two perspectives, micro and macro viewpoints. These viewpoints highlight the importance of completion and satisfaction. In the two viewpoints, the micro viewpoint relates to the project construction phase where the considerations for success are the time, cost, performance, quality, and safety. The macro viewpoint is concerned about the conceptual and operational phases where the satisfaction of the stakeholders is consideration for the measurement of success. Other views about project success criteria reported by Al-Tmeemy et al. (2011) have been expressed by several researchers. This is captured as shown in Table 2.2 below, which shows the achievement of project objectives as the measurement of project success criteria. These show the different views on project success criteria as expressed by various authors.

Table 2.2 Project success criteria

Source(s)	**Project success criteria**
Baccarini (1999)	Project management success: the basic criteria; project management process; and stakeholders' satisfaction Product success: owners' strategy; user's satisfaction; and profitability and market share
Shenhar et al. (2001b)	Project efficiency; impact on the customer; direct business and organisational success; preparing for the future
Tukel and Rom (2001) and Bryde and Robinson (2005)	Cost; time; meeting the technical specification; and customers' and stakeholders' satisfaction
Cooke-Davies (2002)	Project management success: time; cost; technical performance; quality Project success: benefits realised; stakeholder satisfaction Consistent project success: overall level of project management success; time after time
Chan and Chan (2004)	Operational and tactical levels Objective measures: time; cost; safety; and environment Subjective measures: quality; functionality; and satisfaction of different project participants
Jha and Iyer (2007)	Schedule (commitment); cost (coordination); and quality (competence)
Ahadzie et al. (2008)	Environmental impact; customer's satisfaction; quality; cost; and time
Frodell (2008)	Client's perspectives Keeping within the budget; finishing on time; profitability; and maintenance costs and project goals
Smith and Bower (2008)	Definition of project objectives; identification of risks; taking early decision; project planning; time and money; emergencies and urgency; a committed project team; representation in decisions; communications; promoter and the leader; delegation of authority; changes to responsibilities, project scope and plans; control; reasons for decisions; using past experience; contract strategy; adapting to external changes; induction, team building and counselling; training; and towards perfect projects
Takim and Adnan (2008)	Measures of effectiveness Learning and exploitation; client satisfaction; stakeholder objectives; operational assurance; and user satisfaction
Ellatar (2009)	Owner's perspective: schedule; budget; function for intended use; end result as envisioned; quality; aesthetically pleasing; return on investment; marketability; and minimised aggravation Designer's perspective: satisfied client; quality architectural product; met design fee and profit goal; professional staff fulfilment; met project budget and schedule; marketable product/process; minimal construction problems; no liability claims; socially accepted; client pays; and well defined scope of work Contractor's perspective: met the schedule; profit; under budget; quality specifications; no claims; expectations of all parties clearly defined; client satisfaction; good direct communication; and minimal or no surprises during the project

Although these success criteria have been reported in the literatures, which show the multi-dimensional concept of project success (Shenhar and Dvir, 1996; Shenhar and Wideman, 1996; Atkinson, 1999; Shenhar et al., 2001a; Al-Tmeemy et al., 2011), however, several studies and practices have reduced these to the three primary objectives of time, cost, and quality. These objectives that determine the success of the project are shown to depend on the project life phases. For example, Lim and Mohamed (1999) have shown these in two success viewpoints. These are the construction phase as the basis of the micro viewpoint of project success, where all the project goals like time, cost, performance, quality, and safety are established and tested and the macro viewpoint which depicts the completion criteria and the satisfaction as the sets of conditions for determining project success. Thus, to have a framework within which the success of projects could be measured, this research aligns with the criteria of time, cost, quality, and stakeholder satisfaction which consider the delivery of the physical asset and the benefit in use. Since it has been argued that project success is different and measured across the project life cycle, the following section reviews the various concepts of project life for project management and project success.

2.4.2 Project life cycle

Different definitions and descriptions of project life cycle have been expressed in the extant literature. The Project Management Institute (2000) defines the project life cycle as "A collection of generally sequential project phases whose name and number are determined by the control needs of the organisation or organisations involved in the project." Managing successful projects with PRINCE 2 by Central Computer and Telecommunications Agency (1996) defines project life cycle as the path and sequence through the various activities to produce the final product. Also, the project life cycle is described as the subset of the product life cycle, and different industries have different project life cycles (Project Management Institute, 2004). Central Computer and Telecommunications Agency (1996) describes life cycle as the life of a product. Furthermore, the Project Management Institute (2000) shows that, compared to the product life cycle, the project life cycle for construction projects stops at the handover stage (final phase for product life cycle). By this description, any analysis of the project life cycle of a construction project will not include operations (utilisation) and decommissioning (closedown) which are the last two phases for a product life cycle.

Project life cycles consist of a number of distinct phases (Association for Project Management, 2006). All projects have life cycles which are described differently, depending on type of project and industry (de Wit, 1988; Association for Project Management, 2006; Smith and Bower, 2008). The phases provide means of progressive delivery of expected outputs. All projects have beginning and end, as well as phases (Association for Project Management, 2006). The beginning and end in every project indicates that every project has a life cycle, which is the different stages the project passes through in its implementation, with each stage marking the change in nature, complexity and speed of the activities and resources used (Bower, 2002; Smith and Bower, 2008). The project life cycle also shows the phases linking the beginning and the end of a project, which provide check points for the evaluation of projects, important for monitoring project progress and success (Anbari et al., 2008).

A project life cycle can be shown in several ways, such as: early phase, later phase and completed phase (de Wit, 1988); conceptual, planning, execution and termination (Pinto and Prescott, 1988); conceptual planning and feasibility studies, design and engineering, construction, operation and maintenance (Kartam, 1996); Jaafari and Manivong (2000) identify seven stages in the life-cycle project management (LCPM) approach for managing and delivering projects, which are: feasibility, concept, design, procurement, fabrication/construction, commissioning, close-out, operation and maintenance, and divestment; and initiation and concept, design and development, implementation, and commissioning and hand-over (Muriithi and Crawford, 2003). Other descriptions of project life cycles include: initiation, adoption, adaptation, acceptance, routinisation and infusion (Somers and Nelson, 2004); initiation, planning, execution, control and closing (Thiry, 2004; Chen-Charlie et al., 2009); and conception, definition, implementation and handover and closeout (Association for Project Management, 2006).

In other words, project life cycle can be described as linear or cyclic (see Figure 2.1 below), depending on the type of project and industry. It is shown that for cyclic project life cycle, the project goes through a cycle of phases in the project's life span, while in the case of a linear project life cycle, there is a point in time when the life span of the project ends. However, there is no priority to any particular project life cycle since they share some common characteristics. The choice is dependent on the project

management team, organisation and industry. Therefore, it is important to select the life cycle phases that fit every project because the project and the management of the project take place in broader environment than that of the project (Project Management Institute, 2004). All phases in a project's life cycle are important and should not be omitted, although they may be overlapped (Association for Project Management, 2006).

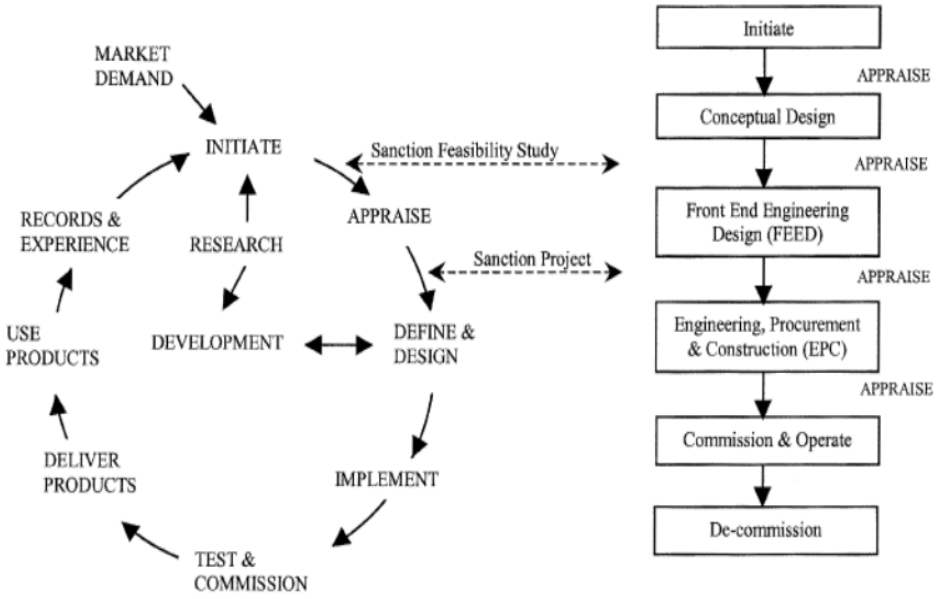

Figure 2.1 Cyclic and linear project life cycle phases

Source: Bower (2002) and Smith and Bower (2008)

From the above, project life cycle adopted in this research is defined as *the collection of generally sequential project phases whose name and number are determined by the control needs of the organisation or organisations involved in the project, and which provides means of progressive delivery of expected outputs*.

2.5 Identification of Research Problem and Knowledge Gap in Public Sector Project Management in Nigeria

The review of the situations in public sector project management in Nigeria as shown in Section 2.1 and the report of the needs assessment of public universities in Nigeria as shown in Section 2.2 revealed poor involvement and engagement of project stakeholders in project activities (Boele, 1995); schedule and budget escalations as experienced in the implementation of liquefied natural gas (LNG) project, as well as

low capacity production at Kaduna, Port Harcourt, and Warri refineries despite huge sums of money expended on turnaround maintenance (TAM) (Obadina, 1999a); and low capacity production (less than half expected generation of 6,000 megawatts) experienced by the National Electric Power Authority (NEPA) now Power Holding Company of Nigeria (PHCN) due to poor management (Obadina, 1999b).

Also revealed is poor recognition and involvement of other key stakeholders in project activities/management by the public sector clients (Boele et al., 2001; Anago, 2002; Ballard and Wang, 2002; Okafor, 2008; Okereke, 2008; Eneh, 2009; Inokoba and Imbua, 2010); misallocation of resources, poor technology, gross inadequate maintenance, misuse of monopoly power experienced by various sectors resulting in unreliable service and gross inefficiencies (Ballard and Wang, 2002); and incompletion of projects such as Ajaokuta steel complex despite huge cost escalations, indebtedness, and delays (Ballard and Wang, 2002).

In addition, it has been reported that public sector projects suffer from corruption, poor politics, lack of continuity, weak private sector support, absence or lack of due process, ethnic and political divide which affect economic development (Stephen and Lenihan, 2007); non-delivery, such as experienced by the National Integrated Power Projects (NIPP) estimated at US$10 billion between 2003 and 2007 (Okereke, 2008); and civil and criminal violence and inter-tribal conflicts, as well as vandalism experienced by domestic crude oil, natural gas, and petroleum products pipelines (Mobbs, 2009).

Furthermore, public sector projects show poor performance attributed to poor implementation due to lack of interest and commitment by political leaders (Mobbs, 2009); lack of clear roles and responsibilities, communication, autonomy and continuity in government policies, and stakeholders' non-participation, among other problems (Priscolli and Wolf, 2009); and abandonment at different phases, such as experienced by physical infrastructure projects scattered in Nigerian public universities; neglect in the maintenance of these projects; inadequacy in the quality and quantity of project to meet required needs; and escalations in cost and time delays of the projects (Committee on Needs Assessment of Nigerian Public Universities, 2012).

In Sections 2.3 and 2.4, the concepts of project management and project success are reviewed, showing the central focus of project management is to ensure project success. Also, the review of project success show it as the achievement of project objectives, which include delivery of the project on estimated time, budgeted cost, specified quality/specifications, and satisfaction of stakeholders, assessed across the project life cycle. Therefore, the analysis of the above issues in terms of public projects management in Nigeria show hindrance in the achievement of project success. Furthermore, the review of the above issues in terms of public projects management in Nigeria show project success affected implicitly by the actions and inactions of the project participants such as the client, the client's project management team, the contractor, and the end user. Thus, these project participants form what can be referred to as the project stakeholders - individuals, groups, or entities represented by individuals who can affect or who can be affected by the project process or the project outcomes. The following section reviews the causal link between public sector project management in Nigeria and project success, public sector project management in Nigeria and project stakeholder management and project success and project stakeholder management, to justify the argument for facilitation of project success in Nigerian public sector project management through project stakeholder management.

2.6 Causal link between Nigerian Public Sector Project Management, Project Success and Project Stakeholder Management

As observed in Section 2.5 above, project participants who form what can be referred to as the project stakeholders, implicitly affect project cost, time and stakeholder satisfaction, which are the criteria for measurement of project success. Review of project success in Section 2.4 show the existence of link between project success and the achievement of project cost, time, quality/specifications and stakeholder satisfaction. Since the issues that hinder project success in the Nigerian public sector projects as identified in Section 2.5 above are implicitly link to the project participants also referred to project stakeholders, thus, project success in Nigeria public sector projects could be facilitated through project stakeholder management.

Earlier in Section 2.4, time, cost, quality, technical and other performance parameters, legal, and environment have been identified as constraints (or objectives) for project success in Association for Project Management (2006). Also, it has been argued that a

project is considered a success if the key stakeholders from the parent organisation, the project team, and end users are satisfied with its outcome (de Wit, 1986; de Wit, 1988). In addition, project success is viewed in terms of the outcome (delivery of the physical asset on time and cost and to the specified quality (de Wit, 1986; Lim and Mohamed, 1999)) or benefits (the satisfaction among the project stakeholders (de Wit, 1986; Lim and Mohamed, 1999)) or both (Morris and Hough, 1987; de Wit, 1988; Pinto and Slevin, 1988a). Furthermore, project stakeholders play key role in defining the success criteria for measuring the success of the project, therefore their power and interest should not be overlooked (Association for Project Management, 2006). The aim of project stakeholder management is to increase the chances of project success, thus, consisting of all the purposeful activities carried out in connection to the project stakeholders to enhance project success (Jepsen and Eskerod, 2013). Stakeholder management is important and a key process that has significant impact on the success of a project (Young, 2006).

Research problem functions in combination with researcher's goals to justify a study and show that the research is important. In addition, this problem is presumably something that is not fully understood, or dealing with it is not adequately known; therefore more information may be required about it. Furthermore, not every study will have an explicit statement of a research problem, but every good research design contains an implicit or explicit identification of some issue or problem, intellectual or practical, about which information is needed – the justification of where the researcher's goals come into play (Maxwell, 2013).

It has been argued that project stakeholders affect project success. Therefore, from the definition of project stakeholders by Jepsen and Eskerod (2013) as individuals, groups, or entities represented by individuals who can affect or who can be affected by the project process or the project outcomes, it can be deduced from Section 2.1 that, among other things, lack of interest and commitment by political leaders (Eneh, 2009), corruption and lack of due process (Stephen and Lenihan, 2007), abandonment leading to aging facilities (Obadina, 1999b), misallocation of resources and gross inadequate maintenance (Ballard and Wang, 2002), contractors' problems, lack of proper execution, monitoring and control (Okereke, 2008) are actions or decisions that can be attributed the projects' parties - stakeholders. All of these problems led to cost and time escalations experienced by the public sector projects identified in Section 2.1. Consequently, it can be argued that public sector projects in Nigeria are not being successful as they could be, implicitly due to stakeholder issues, thus requiring

stakeholder management. As such, by addressing stakeholder issues through effective stakeholder management, project success could be facilitated.

To further make case for project stakeholder management to facilitate project success, the relationship between project success and project stakeholder management can be conceptualised as shown in Figure 2.2 below. The arrows show the directions of relationship among the concepts. As earlier stated, project success which depends on the achievement of project cost, duration, quality, performance, and stakeholder satisfaction depend on project stakeholders, thus requiring project stakeholder management. Since project success in the public sectors in Nigeria has been argued to be implicitly hindered by project stakeholders, therefore the effective management of the project stakeholders has the potential to address cost escalations, project delay, project quality and stakeholder satisfaction, thus facilitating project success.

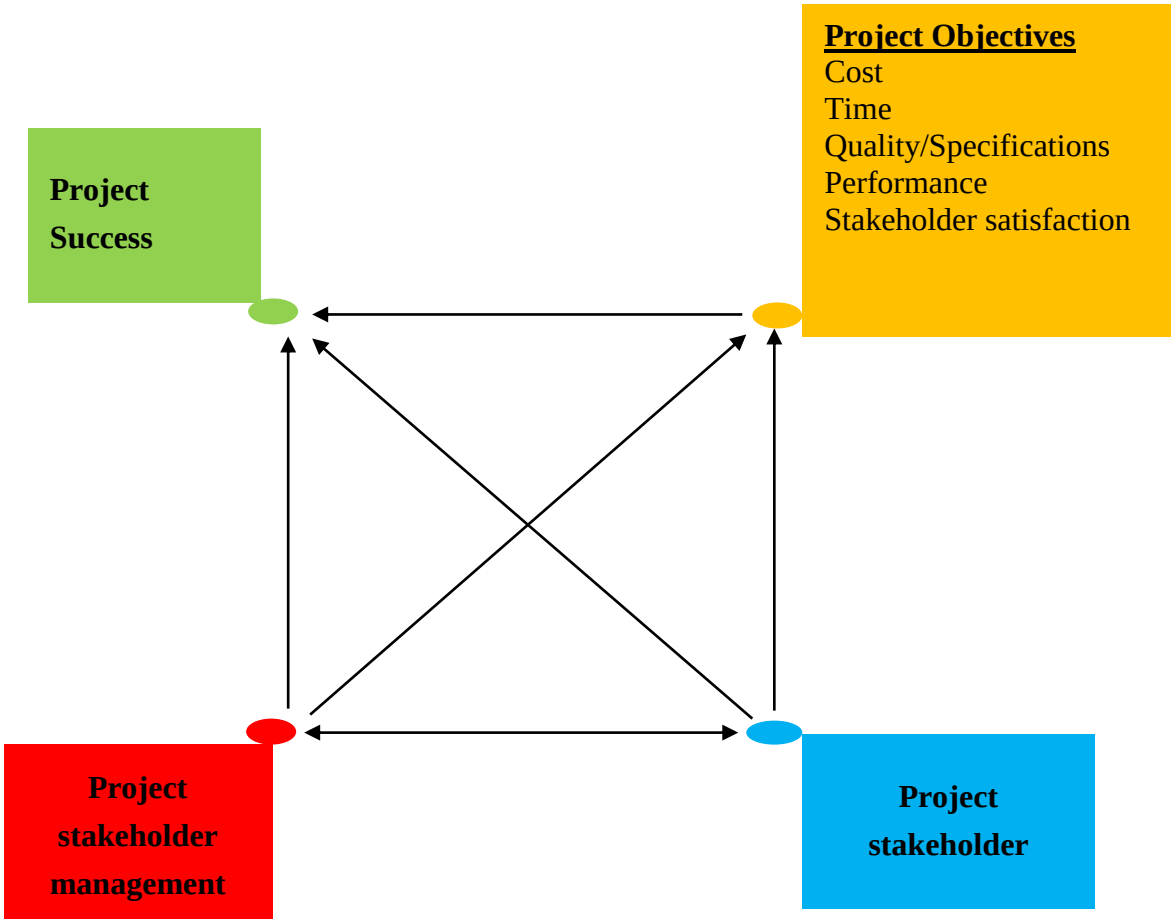

Figure 2.2 Project success and project stakeholder management chain

As shown in Figure 2.2 above, project objectives measured in terms of cost, time, quality, performance and satisfaction determine project success (Morris and Hough, 1987; de Wit, 1988; Hartman, 2000). Similarly project stakeholders have been observed to determine project objectives and success (Project Management Institute, 2004; Association for Project Management, 2008). Also, project stakeholder management affect project objectives and success (Karlsen, 2002; Bourne and Walker, 2004; Jepsen and Eskerod, 2009) Furthermore, project stakeholder management affect project stakeholders and vice-versa. Thus, by root cause analysis of the issues in the public sector project management in Nigeria as highlighted in Sections 2.1 and 2.5, which border on success and project participants (stakeholder), therefore project stakeholder management can be argued to affect the success of the projects. Consequently, improving project stakeholder management has the potential to facilitate project success. The following sections explore the literature on project stakeholder management for guidance on effective project stakeholder management to facilitate project success.

2.7 Concept of Project Stakeholder Management in Project Success

The concept of stakeholder management which was introduced by Freeman in 1984 (Moodley, 1999; Jepsen and Eskerod, 2009) has grown in recent years (Yang et al., 2011). This assertion has been shown by the numerous researches and publications in project stakeholder management (Newcombe, 2003; Cole, 2005; Olander and Landin, 2005; El-Gohary et al., 2006; Bosher et al., 2007). Also, it is in recognition of the importance of project stakeholder management that the Project Management Institute (2013) dedicates a complete chapter in its "Guide to the Project Management Body of Knowledge (PMBOK), fifth edition" to "Project Stakeholder Management", unlike in previous editions where it is recognised as a section.

The concept of stakeholder management aims to analyse, understand, describe and manage stakeholders (Chinyio and Akintoye, 2008). Project stakeholder management includes the processes required to identify the people, groups, or organisations that could impact or be impacted by the project, to analyse stakeholder expectations and their impact on the project, and to develop appropriate management strategies for effectively engaging stakeholders in project decisions and execution (Project

Management Institute, 2013). According to Jepsen and Eskerod (2009), stakeholder management is important in project management, as a project is seen as temporary coalition of stakeholders having to create something together. The aim of project stakeholder management is to increase the chances of project success, thus, consisting of all the purposeful activities carried out in connection to the project stakeholders to enhance project success (Jepsen and Eskerod, 2013). While stakeholder management is an important part of the project management process for construction and other project types (Rowlinson and Cheung, 2008; Walker et al., 2008b) and the strategic management process of an organisation (Moodley, 2002; Moodley, 2008), construction project management focusses on the process planning and managing the activities required to deliver a project (Morris, 1994). Stakeholder management involves project team in a process of enabling stakeholders to identify, negotiate and achieve their objectives through active participation in the project process (Rowlinson and Cheung, 2008). Also, managing stakeholders is a skill for construction project teams (Vinten, 2000; Walker et al., 2008b), as stakeholders have the ability to influence the organisation (Moodley, 2002; Moodley, 2008).

Stakeholder management is important and a key process that has significant impact on the success of a project (Young, 2006). Also, the successful completion of construction projects depends on fulfilling the expectations of stakeholders across the project life cycle (Cleland, 1995). These stakeholders, according to Newcombe (2003) include the clients, project managers, designers, subcontractors, suppliers, funding bodies, users, owners, employees and local communities.

According to Aaltonen et al. (2008), the key to effective project stakeholder management is the management of the relationships between the project and its stakeholders. Cleland (1986) and Jergeas et al. (2000) state that, the efficient management of the relationship between the project and its stakeholders is an important key to project success. Jepsen and Eskerod (2009) further suggest that efficient stakeholder management can be ensured by understanding the expectations of stakeholders, in order to know how to influence them to support and contribute to the project. However, Cleland and Ireland (2002) note that it is important for the project team to know whether it is successfully managing the project stakeholders or not.

There is no common and widely used definition for ‘stakeholder management’ (McElroy and Mills, 2007). On the basis of their definition of stakeholder and incorporating the essence of the definition of stakeholder management by Association for Project Management (2006), McElroy and Mills (2007) define stakeholder management as the continuing development of relationships with stakeholders for the purpose of achieving a successful project outcome. The Project Management Institute (2004) and Association for Project Management (2008) define project stakeholder management as “the systematic identification, analysis and planning of actions to communicate with, negotiate with and influence stakeholders”. Project stakeholder management can be defined as the process of dealing with the people who have an interest in the project, with the aim of aligning their objectives with those of the project (Moodley, 2002; Moodley, 2008).

Stakeholder management is not a fixed process and will alter as stakes change over the life of the project (Moodley, 2008). Stakeholder management which is often characterised by spontaneity and causal actions, in some situations is not coordinated and discussed within the project team, often results in unpredictable outcome (Karlsen, 2002). According to Jepsen and Eskerod (2009), a central premise underlying the concept of project stakeholder management is for the project manager to exert influence on project stakeholders to deliver their contributions to the project. Furthermore, Atkin and Skitmore (2008) observe that the extent of stakeholder influence on a project vary over different stages of the project life cycle. Thus, Ward and Chapman (2008) suggest that, a structured process for project uncertainty management that addresses the different stages of project life cycle is required for a systematic approach to stakeholder management. Stakeholder management is an iterative process which starts during the project concept (Association for Project Management, 2006). Furthermore, McElroy and Mills (2007) observe that while it is important to satisfy the time, cost, and performance objectives of a project, failure to adequately manage the project stakeholders may cause the project failure.

Cleland and Ireland (2007) suggest that, to develop a strategy for managing the stakeholders, the following questions are important:

- Who are the project stakeholders – both primary and secondary?
- What stake, right, or claim do they have in the project?
- What opportunities and challenges do the stakeholders pose for the project team?
- What obligations or responsibilities does the project team have towards its stakeholders?
- What are the strengths, weaknesses, and probable strategies that the stakeholders might employ to realise their objectives?
- What resources are there at the stakeholders' disposal to implement their strategies?
- Do any of these factors give the stakeholders a distinctly favourable position in influencing the project outcome?
- What strategies should the project team develop and implement to deal with the opportunities and challenges presented by the stakeholders?
- How will the project team know if it is successfully "managing" the project stakeholders?

2.7.1 Definitions of stakeholder

Although there are several definitions of stakeholder in the extant literature (Karlsen, 2002), however, Jergeas et al. (2000) observe that there is important growing debate in the literature over the appropriate definition of project stakeholder. Referring to the stakeholder concept at Stanford Research Institute in 1963, Elias et al. (2002) show that stakeholders can be defined as "those groups without whose support the organisation would cease to exist". Rhenman (1968) designates stakeholders as "the individuals or groups which depend on the company for the realisation of their personal goals and on whom the company is dependent". According to Freeman (1984), a stakeholder is defined as, any group or individual in an organisation who can affect or is affected by the achievement of the organisation's objectives. Alkhafaji (1989) defines stakeholders as "the groups to whom the corporation is responsible". According to Dinsmore (1995), a stakeholder is defined as someone who is "positively or negatively affected by the activities or final results of the project". Juliano (1995) states that stakeholders can be defined as "an individual, individuals, team or teams affected by a project." The BS6079 (2000) Guide to Project Management defines stakeholder as a person or group

of people with vested interest in the success of an organisation and the environment within which the organisation operates. In another interpretation by Gibson (2000) a stakeholder is defined as any individual or group with the power to be a threat or benefit to a project. Project stakeholders are groups or individuals who have a stake in, or expectation of, the project's performance (Newcombe, 2003). The Association for Project Management (2006) and Association for Project Management (2008) define stakeholders as all those with an interest or role in the project or who are impacted by the project. However, incorporating the definition by Association for Project Management (2006), modifying the definition by BS6079 (2000) and identifying stakeholders at a project level, McElroy and Mills (2007) define a project stakeholder as a person or group of people with vested interest in the success of project and the environment within which the project operates. Other definitions of stakeholder in the literature are presented in Table 2.3 below. These show the various views of several authors on the definition of project stakeholders.

Table 2.3 Definitions of stakeholder

Source(s)	Definition
Cleland (1986)	"...individuals and institutions who share a stake or an interest in the project."
Cleland and King (1988)	"Stakeholders are those persons or organisations that have, or claim to have an interest or share in the project undertaking."
Dinsmore (1990)	"Who has a stake in project outcome."
Project Management Institute (1996)	"Stakeholders are individuals and/or organisations that are involved in or may be affected by the project activities."
Wright (1997)	"Stakeholders are any individuals who have an interest in the outcome of the project."
Association for Project Management (2000)	"... people or organisations who have a vested interest in the environment, performance and/or outcome of the project."
McElroy and Mills (2000)	"A stakeholder is person or group of people who have a vested interest in the success of a project and the environment within which the project operates."
Project Management Institute (2000)	"...individuals and organisations that are directly involved with the project and who have a vested interest in the resulting deliverables of the project."
Freeman (2002)	"...groups or individuals who can affect or are affected by the accomplishment of an organisation's mission."
Boddy and Paton (2004)	"Stakeholders are individuals, groups or institutions with an interest in the project, and who can affect the outcome."
Project Management Institute (2004)	"...individuals and organisations that are actively involved in the project or whose interest may be affected as a result of project execution or project completion."
Andersen (2005)	"... a person or a group of persons, who are influenced by or able to influence the project."
Bourne and Walker (2006)	"Stakeholders are individuals or groups who have an interest or some aspect of rights or ownership in the project, and can contribute to, or be impacted by, the outcomes of the project."
El-Gohary et al. (2006)	"...stakeholders are individuals or organisations that are either affected by or affect the development of the project."
Olander (2007)	"A person or group of people who has a vested interest in the success of a project and the environment within which the project operates."
Walker et al. (2008a)	"Stakeholders are individuals or groups who have an interest or some aspect of rights or ownership in the project, and can contribute to, or be impacted by, either the work or the outcomes of the project."
Edum-Fotwe and Price (2009)	"...individuals or groups who are directly and/or indirectly involved in the selected scales and beyond and whose lives, environment or business are affected by the three spatial scales and beyond the adopted constructs."
Jepsen and Eskerod (2013)	"…individuals, groups, or entities represented by individuals who can affect or who can be affected by the project process or the project outcomes."

Jergeas et al. (2000) observe that the significant variations in the definitions of stakeholder are going to be difficult in ensuring that all appropriate groups are involved in project planning and operation. For every project and its parts (or stages), the stakeholders may be unique and ignoring this point will place project success at risk. Young (2006) states that the stakeholders are often powerful sources of influence, and failure to manage them effectively can lead to disaster.

The definitions show the various perspectives of viewing stakeholders, which can either be very broad or relatively narrow (Friedman and Miles, 2006; Ward and Chapman, 2008). Also, Atkin and Skitmore (2008) observe that the continuous development of many diffuse strands of stakeholder theory has led to the confused set of definitions and perspectives of stakeholder. However, the choice of definition to adopt is informed by the purpose it will serve, such as that driven by the need to manage threats, opportunities and associated sources of uncertainty about project performance and that which is to recognise and protect or enhance the 'stake' or vested interest of various parties with respect to a given project (Ward and Chapman, 2008).

The theory of stakeholder management has been applied in a number of fields including recently, construction project management (Atkin and Skitmore, 2008). However, the growth in the interest of the concept of stakeholders has also increased the many perspectives of the subject (Friedman and Miles, 2006). Rather than the continuous development of stakeholder theory, Freeman and McVea (2001) have advocated for the application of the insights of stakeholder theory in real world problems. While the various definitions of project stakeholder are recognised by this thesis, it is important to adopt a definition that can be used to understand the perspective of the term in the context of this research. Adopting the definition by Jepsen and Eskerod (2013), project stakeholder can be defined and recognised in this thesis as *individuals, groups, or entities represented by individuals who can affect or who can be affected by the project process or the project outcomes.*

2.7.2 Stakeholder map

The objective of stakeholder mapping is the development of useful stakeholder list (Bourne and Weaver, 2010). The stakeholder map of a project provides the means of categorising stakeholders and their influence on the project. Although there are varying classifications according to different authors, there are two major categories; primary and secondary, as one way of classifying stakeholders, or internal and external, as the other way. Also known as stakeholder analysis, stakeholder mapping has evolved as a technique for analysing the likely interests and actions of stakeholders (Johnson and Scholes, 1993). Stakeholder map which categorises stakeholders considers groups of people with distinguishable relationship with organisations (Friedman and Miles, 2006).

In addition, stakeholder map outlines proponent and opponent stakeholders, identified problems and solutions to problems identified by the stakeholders (Olander and Landin, 2005). In stakeholder mapping, the key characteristics of stakeholders are assessed and presented in a way that helps the project team implement effective stakeholder management initiatives.

On the basis of the above, various ways of classifying stakeholders have been suggested by several authors in the extant literature. For example, Moodley (2002) and Preece et al. (2003) classify stakeholders as primary and secondary stakeholders; where primary stakeholders are those with immediate influence, or are influenced by the project. Also, secondary stakeholders are considered to be indirectly related to the core of the project. Other classifications include: internal and external stakeholders (Hill and Jones, 2001), inside and outside stakeholders (Newcombe, 2003), and proponent and opponent stakeholders (Olander and Landin, 2005).

The diversity of stakeholders in projects indicates the divergence of interest, either supportive or opposing to the project (Winch and Bonke, 2002; Sjoberg, 2003; Bourne and Walker, 2006). As diverse and divergent as the different stakeholders are, so also is the project life cycle composition of the stakeholders. It is observed that different stakeholders exist at different phases of the project life cycle (Moodley, 2002; Winch and Bonke, 2002; Moodley, 2008). Furthermore, it is noted that the influence of stakeholders in projects' life cycles is not static but also dynamic due to the change in interest, conditions, interdependencies of key systems, stakeholders and their objectives as the project progresses (Morris, 1994).

Table 2.4 below shows other detail classifications of stakeholders. These show the stakeholder groups in every classification, to understand the diverse views about the various stakeholder groups in the classifications or categories. Understanding project stakeholder map provides guidance to be aware of and understand the stakeholders on every project so that their influence on the project and vice-versa are known to avoid overlooking them when identifying and developing strategies for their management.

Table 2.4 Project stakeholder classifications/categories

Source(s)	Classifications/Categories
Freeman (1984)	Internal stakeholders: owners, customers, suppliers, employees External stakeholders: neighbours, local community, general public, local authority
Mitchell et al. (1997)	Influencers: stakeholders with ability to influence an organisation Claimants: stakeholders with claim on organisation's service
Hill and Jones (2001)	Internal: stockholders and employees, executive officers, other managers, and board members External: customers, suppliers, governments, unions, local communities, and the general public
Moodley (2002) and Moodley (2008)	Major categories: Primary and secondary Primary: Project's champions and sponsors, equity and debt holders, suppliers and contractors, staff on the project. Secondary: Government, local authorities, unions, local communities, political parties, consumer groups.
Newcombe (2003)	Primary and secondary Inside: designers and contractors Outside: users and community
Olander (2007)	Internal stakeholders: stakeholders actively involved in project execution External stakeholders: stakeholders affected by the project
Atkin and Skitmore (2008)	Internal: owners, customers, suppliers, employees. External: neighbours, local community, general public, local authority
Karlsen (2008)	Clients/customers, Financial institutions, End users, Competitors, Suppliers/contractors, controlling organisations, Consultants/advisers, Third parties, Labour unions, Insurance companies, Line organisations, Public authorities, Press/media.
Mathur et al. (2008)	Influencers (Internal stakeholders) Claimants (External stakeholders)
Moodley et al. (2008)	Explicit: equity holders, financiers, partners, owners, sponsors. Implicit: regulators, 1st tier suppliers, staff, users/consumers. Implicit recognised: community, 2nd tier suppliers, government, local government, relevant NGOs, unions. Unknowns: interest groups, 3rd tier suppliers, trade associations, overseas regulators, overseas government, public.
Rowlinson and Cheung (2008)	Upstream stakeholders: paying customers and end users Downstream stakeholders: suppliers and subcontractors External stakeholders: general community and independent concerned parties Invisible stakeholders: engage with the project team to deliver ultimate project benefit but whose cooperation and support is vital for project success Project stakeholder group: project sponsor/champion and project delivery team

Figure 2.3 below shows a simple stakeholder map. The project stakeholder map helps to understand the influence of stakeholders on projects and thereby guides the decision of understanding the various stakeholders and their management strategies. However, the degree of stakeholders' influence on any project varies and is not consistent among the different stakeholders (Karlsen, 2002). While internal stakeholders are directly involved in an organisation's decision making process, the external stakeholders are those affected by the organisation's activities in a significant way (Atkin and Skitmore, 2008). In addition, Atkin and Skitmore (2008) note that while the internal stakeholder relationship is concerned about project procurement and site management, the external

stakeholder relationships are concerned about rules and legislation in the development of projects. In another description, internal stakeholders have legal contract with the client and are directly involved in the decision making process of the organisation, while external stakeholders have interest in the project and are significantly affected by the organisation's activities (Freeman, 1984; Gibson, 2000). Furthermore, primary stakeholders have been noted to have limited period of experience with the project and directly influence and are influenced by the project and stand to gain or lose the most from the project (Moodley, 2002; Moodley, 2008).

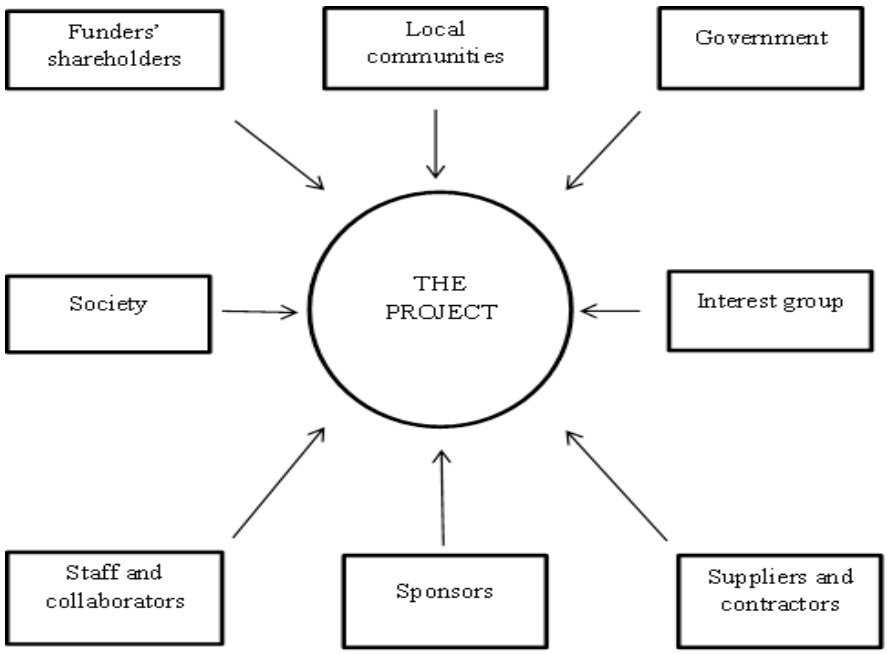

Figure 2.3 Project stakeholder map

Source: Moodley (2002)

2.7.3 Need for project stakeholder management and approaches

According to Jepsen and Eskerod (2013), project stakeholder management consists of conducting project stakeholder analyses and interacting purposefully with the project stakeholders. There are arguments for adequate management of stakeholders in projects, otherwise, there will be several problems (Jergeas et al., 2000). It has been observed that inadequate management of the concerns of stakeholders often leads to problems in the implementation of a construction project (Olander and Landin, 2005).

However, problems can be overcome if the stakeholders on a project are actively included in the front end planning (Skulmoski and Hartman, 1999) in (Jergeas et al.,

2000). According to Karlsen (2002), the findings from Pinto and Slevin (1988b) indicate that more efforts should be made to provide new insights into project stakeholder management, such as the development of strategies and plans. Other efforts required in the management of project stakeholders are the development of visions, objectives, tools, methods, procedures, routines, and evaluations. Also, Karlsen (2002) and (Jergeas et al., 2000) emphasise the development of a practical stakeholder management process that will identify stakeholders, know their interests, and to best manage them to prevent their adverse impact on the project.

Karlsen (2002) observes that, a formal and systematic project stakeholder management process does not exist in many projects, as the management of stakeholders is random, without well-functioning strategies, plans, methods or processes. In addition, Yang et al. (2011) state that a stakeholder management model in construction has not yet been fully developed and a range of practical approaches that can be used for stakeholder management has yet to be consolidated. However, earlier stakeholder management methods and guidelines by Gilbert (1983), Cleland (1986), Savage et al. (1991), and Jiang et al. (2002) deal with the execution of the management functions of planning, organising, motivating, directing, and controlling the resources used to cope with stakeholders' strategies (Karlsen, 2002). Despite these methods and guidelines, there is need to develop a process to improve project stakeholder management (Karlsen, 2002). Karlsen (1998) in Karlsen (2002) observes that the results of earlier research show lack of strategies, plans, and methods in management of stakeholders. Systematic approach to stakeholder management process helps the project manager to manage proactively rather than reactively, as it raises awareness of the potential dangers of stakeholder action so that no one is taken by surprise (Moodley, 2002). Other advocates of systematic approach in the process of stakeholder management include Cleland and Ireland (2002), Karlsen (2002), and Chinyio and Akintoye (2008).

Several approaches to the management of stakeholders have been proposed. According to Jergeas et al. (2000), communication with stakeholders and setting of common goals, objectives and project priorities are two aspects that bring improvements to the management of stakeholders. Also, Olander and Landin (2008) identify analysis of stakeholder concern and needs; communication of benefits and negative impacts;

evaluations of alternative solutions; project organisation; and media relations as five factors that could bring about different project outcomes. Although these two studies make significant contribution to the promotion of successful stakeholder management on construction projects, according to Yang et al. (2011), the findings could not be generalised due to the small number and size of projects that were used for the studies. However, these factors need to be verified by further quantitative and qualitative studies. Furthermore, since these factors were arrived at based on small sample size or just assumption without further verification, a complete list of factors which contribute to the success of stakeholder management has not yet been developed. Furthermore, Landin (2000) states that the long-term performance of any project and its ability to satisfy stakeholders depends on the decisions made and the care taken by the decision makers in fostering stakeholder communication. Aaltonen et al. (2008) state that key to project stakeholder management is the management of the relationships between the project team and its stakeholders. Other opinions on the approaches to the management of project stakeholders include Bakens et al. (2005) and Young (2006) who show that the key to good stakeholder management is effective communication. In addition, studies which confirm the importance of communication and the relationship between the project team and stakeholders in stakeholder management include Jergeas et al. (2000), Bakens et al. (2005), Young (2006), Karlsen (2008), and Olander and Landin (2008). Furthermore, Rowlinson and Cheung (2008) assert that the success of stakeholder relationship management is contingent upon a well-defined communication strategy, supported by structured facilitation of relationship activities.

The management of stakeholder relationships which is inherently of importance to stakeholder management has not been investigated (Yang et al., 2011). According to Yang et al. (2011), many scholars consider stakeholder relationship management as important. For example, Cleland (1986) and Jergeas et al. (2000) consider the “efficient management of the relationships between the project and its stakeholders as key to project success”. Hartman (2002) asserts that successful project relationships are vital for successful delivery of projects and meeting stakeholder expectations. By studying stakeholder empowerment, Rowlinson and Cheung (2008) point out that relationship management is useful for enhancing project performance and client satisfaction.

2.7.4 Project stakeholder management

Several authors have made significant contributions in proposing processes for the management of project stakeholders. This is also observed by Yang et al. (2011). It is observed that any project is described in terms of the individuals and institutions who share a stake or an interest in it (Cleland, 1988). In addition, Cleland (1988) argues that, project stakeholder management assumes that the success of a project depends on the potential impact of project decisions on all stakeholders during the entire life of the project. Furthermore, there are viewpoints that project success is beyond only cost, time and quality, but also the satisfaction and effective management of the stakeholders involved (Bourne and Walker, 2004; Jepsen and Eskerod, 2009).

There are several guides in the extant literature for project stakeholder management (Cleland, 1986; Jergeas et al., 2000; Smyth, 2000; Devitt, 2001; Hartman, 2002; Smyth, 2004; Skitmore and Smyth, 2007; Smyth and Edkins, 2007; Smyth and Fitch, 2007; Aaltonen et al., 2008; Anvuur and Kumaraswamy, 2008; Karlsen, 2008; Rowlinson and Cheung, 2008; Smyth, 2008) for the management of project stakeholders.

Yang et al. (2011) report the importance of stakeholder relationship management by many authors. For example, Cleland (1986) and Jergeas et al. (2000) attribute project success to the efficient management of the relationships between the project and its stakeholders. Similarly, Hartman (2002) contends that successful project relationships are dynamic for the successful delivery of projects and meeting stakeholder expectations. As a system, stakeholder management in construction projects must ensure that the different parts of a system are studied (Olander, 2006), as well as the relationship between the parts (Arbnor and Bjerke, 1997).

Furthermore, Yang et al. (2011) show that project stakeholder relationship management in construction can be categorised into two. These are the promotion of relationships between different project participants and analysing the importance of relationship management (Jergeas et al., 2000; Landin, 2000; Newcombe, 2003; Bakens et al., 2005; Olander, 2006; Aaltonen et al., 2008; Chinyio and Akintoye, 2008; Karlsen, 2008; Karlsen et al., 2008; Olander and Landin, 2008; Rowlinson and Cheung, 2008) on one hand and analysing the impact of stakeholders arising from the existence of the

'network of relationships' (Newcombe, 2003; Bourne, 2005; Bourne and Walker, 2005; Bourne and Walker, 2006; Cova and Salle, 2006; Olander, 2006; Pryke, 2006; Olander and Landin, 2008) on the other hand.

Based on the first category above, Rowlinson and Cheung (2008) point out that for the empowerment of stakeholders, relationship management is useful for improving project performance and client satisfaction. According to Aaltonen et al. (2008), the key to effective project stakeholder management is the management of the relationships between the project and its stakeholders.

The second category analyses the impact made by stakeholders through informal 'instrument', the 'network of relationships' (Yang et al., 2011). In this, Newcombe (2003) and Pryke (2006) show that construction project takes place in a non-linear, complex, iterative and interactive environment such that the impact of stakeholders cannot easily be identified due to the 'network of relationships'. Analysing stakeholder impact using 'network of relationships' show that the notion of hidden/invisible stakeholders is important (Yang et al., 2011). It is observed that, although hidden/invisible stakeholders may have little apparent influence, but that makes their harmless power more substantial (Bourne and Walker, 2006). Although some stakeholders may be considered less powerful and weak, Newcombe (2003) cautions that they may have strong influence on the attitudes of the more powerful stakeholders. Similarly, Bourne and Walker (2006) observe that hidden/invisible stakeholders could cause major disruption to a project's development through hidden power and influential links. Thus, Yang et al. (2011) point that the analysis of the impact from 'network of relationships' is important since it highlights the importance of the different stakeholders. The following section critiques the existing project stakeholder management process models and identifies areas for consideration to increase the understanding of the process of project stakeholder management in the extant literature.

2.7.5 Critique of project stakeholder management

In the previous sections, the importance of project stakeholder management has been explored and emphasised. This ultimately emphasised the achievement of project success. For example, it is stated that project stakeholder management is all the

purposeful activities towards the stakeholders to enhance project success (Jepsen and Eskerod, 2013). It is therefore observed that, to achieve project success through project stakeholder management, a formal structured approached is required (Cleland and Ireland, 2002) to be fully developed (Chinyio and Akintoye, 2008). Also, Karlsen (2002) states that, no formal and systematic project stakeholder management process exists in real projects and the management of stakeholders has been random without routine functioning strategies, plans, methods or processes. Thus, Cleland and Ireland (2002) proposes some basic guidelines for the development of a project stakeholder management process, as a formal approach is required because projects are subject to many changes which informal methods are inadequate. Also, Yang et al. (2011) suggests that a formal stakeholder management process model needs to be synthesised and developed.

Furthermore, it is pointed that successful project stakeholder management should provide project teams with decision-making intelligence (Cleland and Ireland, 2007). As a result, project stakeholder management process models have been proposed by several authors such as Cleland (1986), Cleland (1988), Cleland (1998), Cleland and Ireland (2002), Elias et al. (2002), Karlsen (2002), Preble (2005), Bourne and Walker (2006), Young (2006), Cleland and Ireland (2007), McElroy and Mills (2007), Walker et al. (2008b), Jepsen and Eskerod (2009), Yang et al. (2009), British Standard Institute (2010), Luyet et al. (2012), and Project Management Institute (2013). However, to achieve project objectives, Yang et al. (2011) suggests that it is essential to identify effective approaches for stakeholder management.

2.8 Chapter Summary and Conclusion

This chapter has demonstrated that project success in public sector construction projects in Nigeria is hindered by issues related to project stakeholder management. To arrive at this conclusion, the existing literature and body of knowledge on project management, particularly public sector project management were reviewed, which revealed several problems that affect project success. These problems include schedule and budget escalations, poor management, and poor implementation of projects due to lack of interest and commitment by political leaders. Others are misallocation of resources, corruption, poor politics, lack of continuity, gross inadequate maintenance, poor technology, lack of clear roles and responsibilities, communication, autonomy and

continuity in government policies, absence or lack of due process, vandalism of projects among other problems. Consequently, these problems have been implicitly attributed to project stakeholder management issues.

Therefore, the chapter shows that a contribution can be made by pursuing the aim of developing an integrated framework to contribute to the improvement of project stakeholder management in the public sector in Nigeria, by

- developing a conceptual framework for project stakeholder management;
- using the conceptual framework to evaluate the practice of project stakeholder management in the public sector in Nigeria;
- analysing the strengths and weaknesses relating to project stakeholder management in the public sector in Nigeria; and
- proposing, developing and evaluating an integrated framework to contribute to the improvement of project stakeholder management in the public sector in Nigeria.

The following chapter explores different types of methods that are available in the extant literature and body of knowledge and design suitable methods to achieve the objectives of the research.

Chapter 3 Research Design and Methods

This chapter is about the approaches by which the research was undertaken to achieve the research objectives stated in Section 1.2. To achieve this, the chapter reviews the concept and philosophies of research, which highlights the principles of the methods, and the philosophical assumptions, by which the research was conducted. These helped to justify the strategies for the study, by analysing the various available approaches and methods, and their suitability to address the research objectives. Also, the chapter outlines the systematic rules and procedures upon which the approaches were based, and how the data gathered are interpreted and findings evaluated. Thus, the rationale and philosophical assumptions underlying the approaches chosen are evaluated. Furthermore, the chapter presents and details the strategies adopted for this study, justified as appropriate, within the context of management research.

The details in the chapter are presented as follows:

- Section 3.1 defines and introduces the concept of research;
- Section 3.2 reviews the different alternative knowledge claims and research philosophies, which provide the framework for the research philosophy chosen for this research;
- Section 3.3 presents arguments on research paradigms and the choice of appropriate research paradigm;
- Section 3.4 describes the different strategies of research inquiry and design, as well as the research methods/approaches adopted to achieve the objectives of the research; and
- Section 3.5 is the chapter summary which provides the conclusion to the chapter.

3.1 The Concept of Research

To understand the concept of research, the term research needs to be defined and understood. Therefore, according to the *Chambers Dictionary* in Fellows and Liu (2008), research is defined as a careful search, investigation, or systematic investigation towards increasing the sum of knowledge. The Economic and Social Research Council (2007) in Fellows and Liu (2008) defines research as any form of disciplined inquiry aimed at contributing to the body of knowledge or theory. A more extensive definition

of research in Fellows and Liu (2008) defines research as the systematic investigation into and study of materials, sources, etc. in order to establish facts and reach new conclusions. Thus, research concerns *what* (facts and conclusions) and how (scientific; critical) components.

It is worth noting that research takes place in contexts – of the researcher's interests, expertise and experiences; of human contacts; and of the physical environment. Therefore, it is important to consider the contextual factors, the *environmental variables*, which may influence the results through their impacting on the data recorded (Fellows and Liu, 2008).

3.2 Alternative Knowledge Claims and Philosophies of Research

The principle behind "knowledge claims" requires that when embarking on research, certain assumptions are borne about how and what will be learnt during the inquiry (Creswell, 2003; Creswell, 2007; Creswell, 2009). These alternative knowledge claims are described in several ways, such as philosophical assumptions, epistemologies, and ontologies (Crotty, 1998); paradigms (Lincoln and Guba, 2000); or broadly conceived, research methodologies (Neuman, 2000).

According to Creswell (2003), philosophically, researchers make claim about what is knowledge (ontology); how knowledge is known (epistemology); what values go into it (axiology); how it is written about (rhetoric); and the processes for studying it (methodology). Thus all research designs and approaches align to some philosophical position comprising ontological, epistemological, rhetorical, and methodological assumptions that together frame the nature of the research and the role of the researcher in the inquiry (Khazanchi and Munkvold, 2003). However, Orlikowski and Baroudi (1991) observe that these perspectives or assumptions may often be held implicitly, in that the governing structures under which the research is produced are not explicitly discussed or reflected upon by the researcher.

Creswell (2003) identifies four schools of thought about knowledge claims, namely; postpositivism, constructivism, advocacy/participatory, and pragmatism as shown in Table 3.1. The table shows what are important to each school of thought concerning

each alternative knowledge claim and thus what usually inform the choice of alternative knowledge claim.

Table 3.1 Alternative knowledge claim positions

Postpositivism Determination Reductionism Empirical observation and measurement Theory verification	**Constructivism** Understanding Multiple participant meanings Social and historical construction Theory generation
Advocacy/Participatory Political Empowerment Issue-oriented Collaborative Change-oriented	**Pragmatism** Consequences of actions Problem-centred Pluralistic Real-world practice oriented

Source: Creswell (2003)

According to Creswell (2003), the postpositive knowledge claims also known as the "scientific method" or doing "science" research, quantitative research, positivist/postpositivist research, empirical science, and postpositivism have traditionally governed claims about what warrants knowledge. Other than recognising that postpositivism refers to thinking after positivism, which challenges the notion of the absolute truth of knowledge and that the claims of knowledge cannot be "positive" when studying the behaviour and actions of humans; in the scientific method, the acceptable approach to research by postpositivists is that an individual begins with a theory, collects data that either supports or refutes the theory, and then makes necessary revisions before additional tests are conducted.

In socially constructed knowledge claims also referred to as social constructivism (often combined with interpretivism), the assumptions identified in these works hold that individuals seek understanding of the world in which they live and work. These individuals develop subjective meanings of their experiences, which are directed toward certain objects or things. In addition, this philosophy assumes that meanings are varied and multiple, thus researchers look for the complexity of views rather than narrowing meanings into few categories or ideas. Furthermore, the goal of research in this case is to rely as much as possible on the participants' views of the situation being studied. The questions are usually broad and general to allow the participants to construct the meaning of the situation, which is typically forged in discussions or interactions with other persons. This also encourages more open-ended questioning, for the researcher to

listen carefully to what people say or do in their life setting, with the subjective meanings often negotiated socially and historically.

The advocacy/participatory knowledge claims arose from the feeling that the postpositivist assumption imposed structural laws and theories that did not fit marginalised individuals or groups or did not adequately address issues of social justice. Also, it is observed that the constructivist stance did not go far enough in advocating for an action agenda for marginalised peoples. The advocacy/participatory knowledge claim advocates for inquiry intertwined with politics and a political agenda containing action agenda for reform to change the lives of the participants, the institutions where individuals work or live, and the researcher's life.

Another position about knowledge claims comes from the pragmatists. Although many forms of pragmatism exist, many pragmatists view knowledge claims arising out of actions, situations, and consequences rather than antecedent conditions (as in postpositivism). However, there is concern with applications and solutions to problems (Patton, 1990). Also, researchers are more concerned with the problem rather than the methods, thus, using all approaches to understand the problem. Consequently, this philosophy encourages mixed methods of studies. Thus, for the mixed methods researcher, pragmatism allows multiple methods, different worldviews, and different assumptions, as well as different forms of data collection and analysis in the mixed methods study.

Khazanchi and Munkvold (2003) observes consensus among philosophy of science authors such as Kuhn (1962), Burrell and Morgan (1979), and Philips (1987), and Hunt (1994) on the importance of the following philosophies to research:

- Ontology, i.e., the theory or study of existence (being), such as the ontological assumptions in the conduct of inquiry within a paradigm might specifically characterise the nature of reality;
- Epistemology, i.e., a theory of knowledge that deals with the nature of knowledge, its scope, and provides a set of criteria for evaluating knowledge claims and establishing whether such claims are warranted; and
- Methodology, i.e., a procedure by which knowledge is to be generated.

There are various views that shape the debates in management research, which show dichotomous camps. Subsequently, wide levels of debates have featured about these dichotomous camps, such that the synonymous use of these perspective views has blurred the debates. Similarly, Khazanchi and Munkvold (2003) present a hierarchy of paradigm characteristics and major dichotomies which agree with the argument of Fitzgerald and Howcroft (1998) on the existence of polarisation along philosophical lines. The recognition of these philosophical assumptions have created two polemics and polarised camps, such as detailed in Table 3.2 below, also referred to as ‘soft’ and ‘hard’ research dichotomies where every research may be situated. Consequently, these divides created have resulted in several debates on how research should be conducted. While attempts have been made to resolve these debates, however, these have resulted in either creating another position or encouraging the acceptance of the two poles, to complement each other’s strengths and weaknesses. Consequently, this research relies on the positions in this model in viewing the philosophies upon which the research design and method for this study are derived or arrived at.

Table 3.2 Summary of 'soft' versus 'hard' research dichotomies

SOFT	HARD
ONTOLOGICAL LEVEL	
Relativist Belief that multiple realities exist as subjective construction of the mind. Socially-transmitted terms direct how reality is perceived and this will vary across different languages and cultures.	**Realist** Belief that external world consists of pre-existing hard, tangible structures which exist independently of an individual's cognition.
EPISTEMOLOGICAL LEVEL	
Interpretivist No universal truth. Understand and interpret from researcher's own frame of reference. Uncommitted neutrality impossible. Realism of context important.	**Positivist** Belief that world conforms to fixed laws of causation. Complexity can be tackled by reductionism. Emphasis on objectivity, measurement and repeatability.
Subjectivist Distinction between the researcher and research situation is collapsed. Research findings emerge from the interaction between researcher research situation, and the values and beliefs of the researcher are central mediators.	**Objectivist** Both possible and essential that the researcher remain detached from the research situation. Neutral observation of reality must take place in the absence of any contaminating values or biases on the part of the researcher.
Emic/Insider/Subjective Origins in anthropology. Research orientation centred on native/insider's view, with the latter viewed as an appropriate judge of adequacy of research.	**Etic/Outsider/Objective** Origins in anthropology. Research orientation of outside researcher who is seen as objective and the appropriate analyst of research.
METHODOLOGICAL LEVEL	
Qualitative Determining what things exist rather than how many there are. Thick description. Less structured and more responsive to needs & nature of research situation.	**Quantitative** Use of mathematical & statistical techniques to identify facts and causal relationships. Samples can be larger more representative. Results can be generalised to larger populations within known limits of error.
Exploratory Concerned with discovering patterns in research data, & to explain/understand them. Lays basic descriptive foundation. May lead to *generation* of hypotheses.	**Confirmatory** Concerned with hypothesis testing & theory verification. Tends to follow positivist, quantitative modes of research.
Induction Begins with specific instances which are used to arrive at overall generalisations which can be expected on the balance of probability. New evidence may cause conclusions to be revised. Criticised by many philosophers of science, but plays an important role in theory/hypothesis conception.	**Deduction** Uses general results to ascribe properties to specific instances. An argument is valid if it is impossible for the conclusions to be false if the premises are true. Associated with theory verification/falsification & hypothesis testing.
Field Emphasis on realism of context in natural situation, but precision in control of variables & behaviour measurement cannot be achieved.	**Laboratory** Precise measurement & control of variables, but at expense of naturalness of situation, since real-world intensity & variation may not be achievable.
Idiographic Individual-centred perspective which uses naturalistic contexts & qualitative methods to recognise unique experience of the subject.	**Nomothetic** Group-centred perspective using controlled environments & quantitative methods to establish general laws.
AXIOLOGICAL LEVEL	
Relevance External validity of actual research question & its relevance to practice is emphasised, rather than constraining the focus to that researchable by 'rigorous' methods.	**Rigour** Research characterised by hypothetico-deductive testing according to the positivist paradigm, with emphasis on internal validity through tight experimental control & quantitative techniques.

Source: Fitzgerald and Howcroft (1998)

3.2.1 Ontological level

The philosophy concerning reality as earlier stated is known as ontology (Guba, 1990; Tashakkori and Teddlie, 1998; Lincoln and Guba, 2000; Willis, 2007; Runeson and Skitmore, 2008). Ontology is concerned with being and existence and is rooted in paradigm (Halloway, 1997; Willis, 2007). Ontological questions cover the nature of social reality and assumptions about human existence (Guba and Lincoln, 1994; Lincoln and Guba, 2000).

Reality is seen in two perspectives according to belief systems of the realists or objectivists and the relativists or subjectivists (see Tables 3.2 and 3.3). Table 3.3 below gives the comparisons of the axioms of positivism and naturalist/constructivist paradigms. To the objectivists, the social world is real, driven by immutable natural laws and true reality is only possible by testing theories about actual objects and processes independent of the people or social setting involved. The subjectivists however believe that the social world is created by the actions and interactions of humans, implying that reality is subjective depending on who views it and only exists in minds as constructs (Halloway, 1997; Khazanchi and Munkvold, 2003; Runeson and Skitmore, 2008).

Construction management is a discipline based on theory or science (Runeson, 1997), therefore, its scientific theories in research are ontological and assume orderly reality which can be revealed and known only through research (Runeson and Skitmore, 2008). This belief is an objective view, which argues that social events or happenings and their meanings exist independent of social actions, not subjective to social interactions resulting in constant revisions. Love et al. (2002) argue that the human and dynamic nature of construction projects, as well as the multiple interdependencies involved react to produce feedback processes and non-linear relationships. As such, in construction management, different techniques are employed and most researches are directed towards finding better work practice or improving decision making (Runeson, 1997). This is further argued that most researches on why things go wrong on construction projects are biased in favour of construction managers because they suffer from lack of theories being tested or developed. This therefore shows why the management of construction projects is subjective. However, in line with other studies in construction

and engineering management, this thesis aligns with the realist perspective, which argues that research seeks to understand an independent, pre-existing reality not subjective constructs of the human mind. In addition, it takes the form of critical realism which recognises the existence of reality that is independent of the experience of the mind but acknowledging that discourse shapes reality, and vice-versa (Johnson and Clark, 2006; Mitchell and Jolley, 2007). This could be described as all knowledge is local, provisional and context-dependent.

Table 3.3 Comparing axioms of positivism and naturalist/constructivist paradigms

Axiom	**Paradigm**	
	Positivism	Naturalist/Constructivist
Ontology (Nature of reality)	Belief in a single reality	Belief in multiple, constructed realities
Epistemology (The relationship of the knower to the known)	Belief that the knower and the known are independent	Belief that the knower and the known are inseparable
Axiology (Role of values in inquiry)	Belief that inquiry is value-free	Belief that inquiry is value-bound
Generalisations	Belief that time- and context-free generalisations are possible	Belief that time- and context- free generalisations are not possible
Causal Linkages	Belief that there are real causes that are temporally precedent to or simultaneous with effects	Belief that it is impossible to distinguish causes from effects
Deductive/Inductive Logic	Belief in the existence of emphasis on arguing from the general to the particular or an emphasis on a priori hypotheses (or theory)	Belief in the existence of emphasis on arguing from the particular to the general or an emphasis on "grounded" theory

Source: Source: Tashakkori and Teddlie (1998)

3.2.2 Epistemological level

Epistemology describes the relationship between the knower to the known, which is viewed differently based on paradigmatic traditions (Guba and Lincoln, 1994; Tashakkori and Teddlie, 1998) (see Tables 3.2 and 3.3). In other words, epistemology refers to the theory of knowledge and how knowledge is acquired. In addition, it is the study of knowledge from a philosophical point of view and is concerned with whether and how valid knowledge about reality is achieved (Guba, 1990; Guba and Lincoln, 1994; Scheurich, 1997; Tashakkori and Teddlie, 1998; Lincoln and Guba, 2000; Bryman, 2001; Willis, 2007). It also defines the knowledge through which the research process is investigated and developed, which must be strong; otherwise progress in developing the knowledge base for the research and practice in the field will be weak (Smyth and Morris, 2007).

Lincoln and Guba (1985) and Bryman (1988) assert that two main assumptions (positivist and interpretivist paradigms) underlie social research. Other views are the subjectivist and objectivist. Epistemology is based on paradigm, which is a philosophical model or framework originating in a world view and belief system shared by a scientific community (Halloway, 1997). Another view known as the pragmatic view recognises knowledge as models that presents the environment in a manner to make problem solving simple, thus, allowing the researcher to freely choose the method, technique and procedures to meet research requirement (Creswell, 2009).

Epistemology philosophy has developed over time with the beliefs mentioned in Table 3.2 determining choice. While some researchers in certain fields have traditional beliefs others have no definite beliefs. For example, researchers in the natural sciences have traditionally adopted the positivist view, a belief that the world conforms to fixed laws of causation. This view has enjoyed success in the physical sciences research where growth in knowledge has been shown. In the social sciences however, positivism has been less successful and its appropriateness questioned. The nature of this research which involves questioning the success of public sector projects in Nigeria and thinking of improving success would be unfavourable to a position that favours taking a single position. Thus, taking a viewpoint that gives the researcher flexibility of choice of philosophy allows pluralistic approaches to deriving knowledge about a problem. Pluralism is a research position that favours a diversity of methods, theories, and philosophies, in scientific enquiry, and rejects methodological monism (Landry and Banville, 1992). A research of this nature that seeks to improve project success through the process of stakeholder management, favours both positivist-objectivist position to establish generalizable principles and interpretivist-subjectivist position because of the interplay of the kind of data. Considering these two extreme positions, it is therefore reasonable to adopt a multiple-paradigm approach which allows for deep examination of the issues through definition of the problem and applying the most appropriate method chosen from an unconstrained and wide range of available approaches (Raftery et al., 1997). Thus, this thesis aligns with the pragmatist position, in line with the arguments of proponents of pragmatism such as Patton (1990) and Tashakkori and Teddlie (1998). This choice is informed by the importance attached to acquiring all the data required from multiple sources.

3.2.3 Methodological level

Methodological level of a research provides the process of the research (Creswell, 2007). Methodological assumption frames the nature of the research and the role of the researcher in the scientific inquiry (Khazanchi and Munkvold, 2003). This is the level that deals with philosophical debates of research which include the research approach and methods, and the research process. However, the associations between epistemological and methodological levels of dichotomy are strong (Fitzgerald and Howcroft, 1998). One of the research strategies that has benefited from the epistemological and methodological arguments is the mixed methods research. According to Fellows and Liu (2003), this benefit strengthens mixed methods in two-folds, by reducing the disadvantages of any single-technique and gaining the advantages of each, or of the combination. Similarly, Jick (1979) observes that the resultant effect of mixing methods is capturing a more holistic and contextual portrayal of the units under study; thus increasing the confidence of results. Also, mixing methods and using innovative approaches increase reliability and validity through convergence and uncovering otherwise hidden phenomena (Loosemore, 1998). Furthermore, Eisenhardt (1989) suggests that mixed methods strengthens the substantiation of constructs. Thus, the multi-dimensional situation of real world problems suggests that mixed methods and different approaches at different stages of an intervention are more favourable. Consequently, the multi-dimensional situations caused by multiplicity of stakeholders on projects, as well as the need to gather the required data in a research concerning stakeholders, call for the use of mixed method, which this research subscribes to.

3.2.4 Axiological level

Axiology is the role of values in inquiry, held differently depending on paradigmatic tradition (Tashakkori and Teddlie, 1998). Axiology relates to epistemology in terms of how the values are viewed (positivist view of value-free or naturalist view of value-bound) (Guba and Lincoln, 1994; Tashakkori and Teddlie, 1998; Lincoln and Guba, 2000). Furthermore, axiology evaluates the worth of a research (Khazanchi and Munkvold, 2003). Research with elements of qualitative research methods requires the elements of rigour, validity, and reliability. These are considerations taken into account in the design of the research.

The positivist's view is that the researcher should be completely impartial in the inquiry thus quantitative, while the constructivist's view is that the researcher has interest and can express his/her opinion in the inquiry, which affects the researcher's judgement. Thus the constructivist adopts a qualitative approach to inquiry (Jupp, 2006). Objectivity is a strong consideration in this research in order to remove bias that may affect the outcomes of the study, as such, the positivist's view was adopted.

3.3 Choosing Appropriate Research Paradigm

The comprehensive belief system, world view or framework that guides research and field practice is known as paradigm (Willis, 2007). In other words, a paradigm is a theoretical framework, including a system of viewing events (lens) by people (Fellows and Liu, 2008). It is not just a philosophy of science but also the related social science theory and the associated research framework. Paradigms operate to determine views adopted and the approach to questioning and discovery. The choice of an appropriate research style is shaped by the research aim, analysis goal, specific research question and mode of engagement or paradigm (Crabtree and Miller, 1999). The abounding paradigm (or worldview) in every discipline affects the conduct of research in that discipline (Smyth and Morris, 2007). Other factors include time frame, degree of desired researcher control and aesthetics (possession of unique sets of skills, gifts and sensibilities).

Guba (1990) defines paradigm as "a patterned set of assumptions concerning reality (ontology), knowledge of that reality (epistemology) and particular ways of knowing that reality (methodology)." According to Pollack (2007), paradigm is the commonly shared set of assumptions, values and concepts within a community, which constitutes a way of viewing reality. Paradigm guides researchers in the methodology they adopt and the techniques they use (Pollack, 2007; Smyth and Morris, 2007). Consequently, a paradigm is the theoretical framework through which views are adopted and questioning and discovery are approached (Fellows and Liu, 2008).

The relationship between a researcher's view of reality (ontology) and meaning of knowledge and its creation (epistemology) influences the research design and methodology chosen (Darlaston-Jones, 2007). According to Creswell (2009), the

philosophical beliefs held by the researcher inform the choice of qualitative, quantitative or mixed method strategy in the research. These philosophical beliefs can be viewed as functionalist, objectivist – subjectivist, positivist-interpretivist, pragmatist or constructivist.

The pragmatist point of view rejects the bipolar view of positivism (and post-positivism) and constructivism with regard to methods, logic and epistemology. It supports the use of mixed method approach because the use of only either qualitative or quantitative approach limits the researcher. However, if a choice must be made between either of the two, the post-positivist will opt for quantitative option due to their concern for causal linkages, while constructivist will opt for qualitative option because they believe that causes cannot be separated from effects. Thus, inductive logic and value-bound inquiries are employed to understand and question the approach adopted (Tashakkori and Teddlie, 1998). Consequently, according to Jick (1979), qualitative and quantitative methods should be viewed as complementary rather than rival camps, as mixing methods is more desirable due to the strength and weakness found in single method design. This therefore allows the integration and blending of variety of data and methods thereby capturing the complete, holistic and contextual nature of the units studied. The philosophical considerations reviewed in the sections above have provided the basis and framework for detailed consideration of the research design for this research. Table 3.4 below shows the existing paradigms and the philosophical reasoning that informed the decisions on choices made in Section 3.2 and the subsequent sections in this chapter.

Table 3.4 Comparisons of four important paradigms used in the social and behavioural sciences

Paradigm	Positivism	Post-positivism	Pragmatism	Constructivism
Methods	Quantitative	Primarily Quantitative	Quantitative+ Qualitative	Qualitative
Logic	Deductive	Primarily Deductive	Deductive+ Inductive	Inductive
Epistemology	Objective point of view. Knower and known are dualism	Modified dualism. Findings probably objectively "true."	Both objective and subjective points of view.	Subjective point of view. Knower and known are inseparable.
Axiology	Inquiry is value-free	Inquiry involves values, but they may be controlled	Values play a large role in interpreting results.	Inquiry is value-bound
Ontology	Naive realism	Critical or transcendental realism	Accept external reality. Choose explanations that best produce desired outcomes.	Relativism
Causal linkages	Real causes temporally precedent to or simultaneous with effects.	There are some lawful, reasonably stable relationships among social phenomena. These may be known imperfectly. Causes are identifiable in a probabilistic sense that changes over time	There may be causal relationships, but we will never be able to pin them down.	All entities simultaneously shaping each other. It's impossible to distinguish causes from effects.

Source: Tashakkori and Teddlie (1998)

3.4 Research Methods and Other Approaches/Strategies of Inquiry

In determining the most appropriate approach (methodology and method(s)) to adopt – the research design, it is important to consider the logic that links the data collection and analysis to yield results, hence conclusions to the main research question being investigated. The main priority is to ensure that the research maximises the chances of realising its objectives. Therefore the research design must take into account the research questions, determine what data are required, and how the data are to be analysed (Fellows and Liu, 2008).

Research methods are the techniques of data collection (Bryman, 1995), which involve the forms of data collection, analysis and interpretation that researchers use for their studies. When selecting the type of method to be used, it is useful to consider all possibilities of data collection and to organise these methods by their degree of predetermined nature, their use of closed-ended versus open-ended questioning and

their focus on numeric versus nonnumeric data analysis (Creswell, 2009). These possibilities need to be within the context of the aim and objectives of the research.

Strategies of inquiry provide specific direction for procedures in a research design. The strategies of inquiry contribute to overall research approach which could be quantitative, qualitative, or mixed methods (Creswell, 2003).

Research design according to Yin (1994), Yin (2003), and Yin (2009) is the logical sequence connecting the data to the research. Bryman and Bell (2011) state that research design provides the framework for the collection and analysis of data. It outlines the overall structure and orientation of an investigation (Bryman, 1995).

The ontological and epistemological inclination to be adopted must be considered along with the research methods for investigation (Dainty, 2008). According to Yin (1994), Yin (2003), and Yin (2009), the method to be adopted in any research investigation is a function of the type of research operation, the extent of control exercised by the researcher on the variables involved and whether the research is on past or current events.

Figure 3.1 below shows the schema of the research design and methodology adopted for this research. This shows the process followed for conducting the research. The process started from establishing the research problem/question from literature review of project success. Also, the figure shows that after establishing the research problem/question, the next process is to determine the research methods and designs suitable for the conduct of the research and achieving the set objectives. The research objectives are achieved as shown in the figure through different methodologies, leading to the conclusion of the research. Methods of inquiry, data acquisition and analyses are also shown.

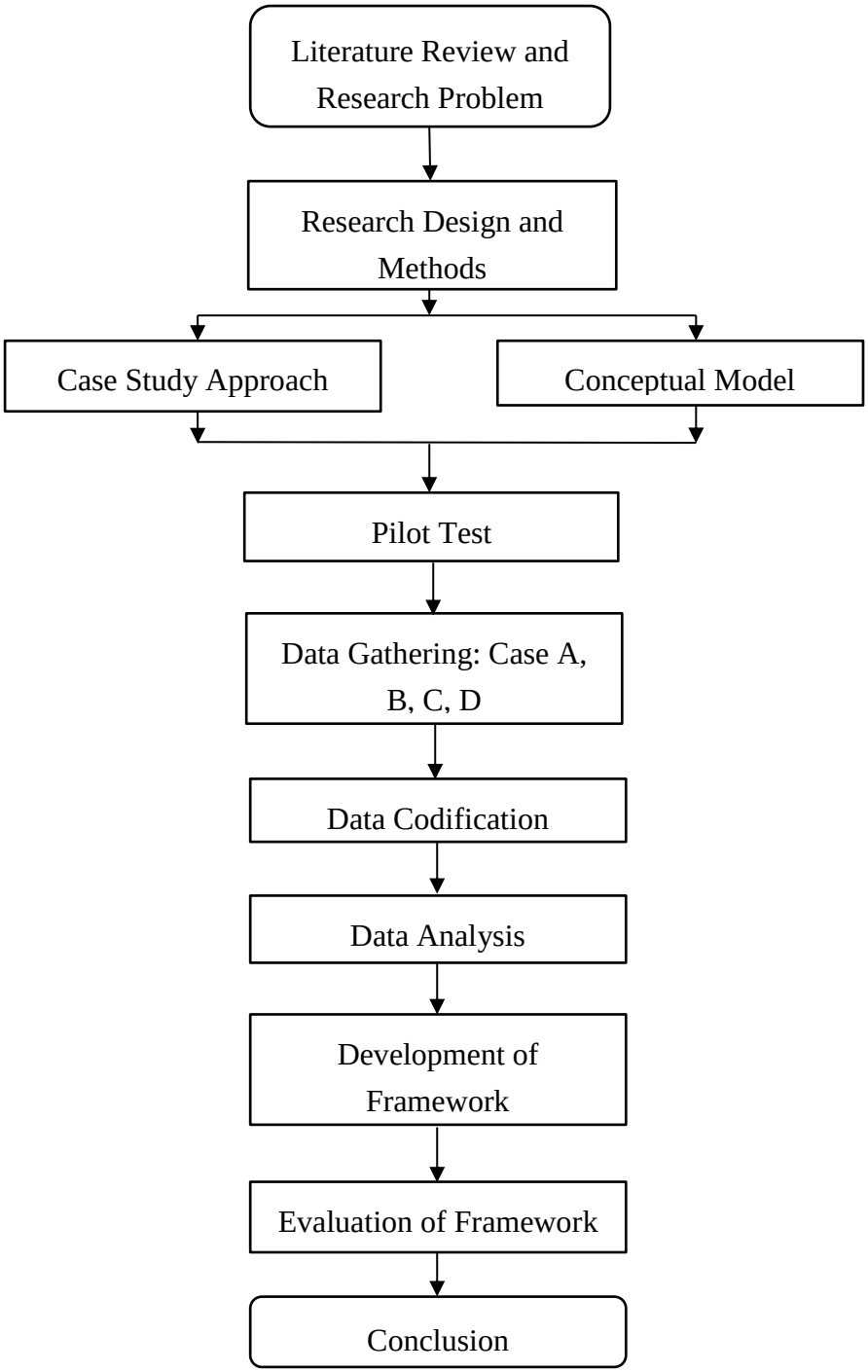

Figure 3.1 Overview of the research design and methodology

Although there are various methods and strategies for carrying out research, this research relied on the research objectives to determine the choice of the suitable research method and/or strategy. The sections below describe the research methods and/or strategies and methodologies employed to achieve the objectives of the research.

3.4.1 Development of a conceptual model for the management of project stakeholders

To achieve this objective required the review and content analysis of the extant literature and body of knowledge on project stakeholder management. The essence of this was to develop sets of interrelated theoretical concepts on and about project stakeholder management across the life cycle of the project. These are demonstrated using models and/or frameworks, found useful in management challenges and situations, as recognised by Weick (1989), Whetten (1989), Fellows and Liu (2003), and Fellows and Liu (2008).

Model and framework have been used interchangeably. For example, according to Aritua (2009), the terms model and framework are sometimes considered synonymous and used interchangeably in research. However, within the context of this research the terms are viewed distinctly. March and Smith (1995) describe a model as "a set of propositions or statements expressing relationships among constructs" and "can be viewed simply as a description, that is, as a representation of how things are". A framework on the other hand is a frame, a supporting system, a meta-architecture of a system (Grigoriu, 2006). Consequently, a conceptual model has been considered for this research, and the term model is used in this thesis to represent a theoretical description of a process.

To develop the conceptual model for the management of project stakeholders for this research required the review of literature and content analysis of project stakeholder management process. Review of the literature identified several project stakeholder management process models as detailed in Section 4.3. These models are detailed This was undertaken to ensure exhaustive understanding of relevant theoretical concepts and important issues to consider for a robust model that is theoretically rigorous and practically applicable.

Content analysis is potentially an important research technique in the social sciences, which allows content analysts to view data as representations not of physical events but of texts, images, and expressions that are created to be seen, read, interpreted, and acted on for their meanings, and analysed with such uses in mind. Analysing texts in the

contexts of their uses distinguishes content analysis from other methods of inquiry (Krippendorff, 2004).

Content analysis is a systematic research method for analysing textual information in a standardized way that allows evaluators to make inferences about that information (Weber, 1990; Krippendorff, 1980). Neuendorf (2002) defines content analysis as the systematic, objective, quantitative analysis of message characteristics. According to Krippendorff (2004), content analysis is a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use. A central idea in content analysis is that the many words of the text are classified into much fewer content categories.

According to United States General Accounting Office (1996), the classification process in content analysis, called "coding," consists of marking text passages with short alphanumeric codes. This creates "categorical variables" that represent the original, verbal information and that can then be analysed by standard statistical methods. The text passages can come from structured interviews, focus group discussions, case studies, open-ended questions on survey instruments, work papers, agency documents, and previous evaluations. Content analysis is useful because of the large quantity of written material that evaluators typically collect during a project, especially when it comes from diverse and unstructured sources. To classify a document's key ideas, the evaluator identifies its themes, issues, topics, and so on. The result might be a simple list of the topics in a series of meeting notes. Content analysis can go further if the evaluator counts the frequency of statements, detects subtle differences in their intensity, or examines issues over time, in different situations, or from different groups.

Against other social research techniques, such as experiments, interviews, focus groups, surveys, projective tests, content analysis is considered suitable for the development of the conceptual model for this research. This is considered most suitable, according to Krippendorff (2004) due to the following features of content analysis:

- Content analysis is an unobtrusive technique, unlike controlled experiments, surveys, interviews, focus groups, and projective tests, which are vulnerable to some errors;

- Content analysis can handle unstructured matter as data, unlike surveys, mail questionnaires, and structured interviews, which typically offer respondents predefined choices that are easily tabulated, coded, or processed by computer;
- Content analysis is context sensitive and therefore allows the researcher to process as data texts that are significant, meaningful, informative, and even representational to others, unlike controlled laboratory experiments, surveys, unstructured interviews, and statistical analyses, which are context-insensitive methods that generate data without reference to their original context; and
- Content analysis can cope with large volumes of data, unlike ethnomethodology and case study approaches, historiographical methods, and interpretive research, which rely on small samples of text.

Content analysis was undertaken by studying the depth of description of the issues in the stakeholder management process that make the process systematic, efficient and effective. These issues include the input/output elements in a process, and in the case of stakeholder management process, these are the participants and their qualifications in the stakeholder management process, as well as the techniques and outputs of the stakeholder management process.

3.4.2 Investigation of the practice of project stakeholder management in the public sector in Nigeria

To achieve this objective, the empirical study of the practice of project stakeholder management in the public sector in Nigeria was required. This was considered to obtain the required data and analyse, to make informed judgement of the situation for better understanding of the practice, to reach a decision/conclusion, which may require further action. Undertaking empirical study requires gathering of primary data (quantitative and qualitative) using styles of research (research methods and/or strategies). There are several styles suggested in the extant literature for the collection of empirical data, whereby, each style may be used for explanatory or descriptive research (Fellows and Liu, 2008). Bell (1993) suggests styles of research to include action, ethnographic, surveys, case study, and experimental. Yin (1994) considers five common research strategies in the social sciences, namely, surveys, experiments (including quasi-experiments), archival analysis, histories, and case studies. According to Yin (1994),

Yin (2003), and Yin (2009), the method to be adopted in any research investigation is a function of the type of research question, the extent of control exercised by the researcher on the variables involved and whether the research is on past or current events.

Although there are various methods available for carrying out empirical studies, the literature shows dominant use of the following methods in management research (Fellows and Liu, 2008; Creswell, 2009) which guide the choice in construction/project management research:

- experiments
- surveys
- action research
- case studies
- grounded theory
- ethnography

3.4.2.1 Experiments

According to Gillham (2000), experiments are the process of 'scientific' research which yield 'proven' results of potential great value. This is the research process of testing the effect of one variable on another, or others (Marshall, 2002). Jupp (2006) defines experiment as "a research design used to draw causal inferences regarding the impact of a treatment variable on an outcome." The purpose of experiment as a research method is to test the impact of a treatment on an outcome, when other factors which can affect the result are kept constant (Creswell, 2009). This implies manipulating one variable (independent) and determining the effect on another variable (dependent). This method of carrying out research has the advantages of suitability for testing causality and internal validity (Marshall, 2002).

Experiments are either conducted in the laboratory (controlled environment) or field (real life setting such as in classrooms, construction sites or organisation) (Creswell, 2009). In this approach, created study designs test carefully constructed causal hypotheses (Crabtree and Miller, 1999). However, the disadvantages are that the behaviour of the phenomena observed takes place in false circumstances (the laboratory

which is unreal world) and the low external validity. Thus, Bryman and Bell (2007) contend that this method is unsuitable for use in business and management research, as requisite level of control when dealing with human behaviour cannot be achieved.

In addition, this is the research design traditionally preferred by most quantitative researchers to give strength to the question of internal validity and reflect the emphasis placed on determination of causality as the strength of experiments (Bryman, 1995; Punch, 2005; Bryman and Bell, 2007). Fellows and Liu (2008) further observe that, when used to deal with human behaviour, this strategy takes the form of quasi-experiment, where the main independent variables except one (of interest) are kept relatively constant, in order to determine the main dependent variable.

Consequently, experimental method will be undesirable for the evaluation of the current practice of project stakeholder management in the public sector in Nigeria for the following reasons:

- Holding only one independent variable to alter value or isolating individual dependent variables in construction management is impossible (Fellows and Liu, 2008). Even the relative possibility of using quasi-experiment cannot work due to the multiple natures of stakeholders in projects, which will not lend itself to the use of experimental design.
- The internal validity of experimental results which can cause changes in the outcome, irrespective of the experimental intervention is threatened by some factors (Jupp, 2006). This has the possibility of weakening the strength of experimental method when used in research to investigate actions or behaviours of human beings, as a result of the huge change a little difference on the action or behaviour of stakeholders can make.
- Implementing experimental design in social research (including construction/project management) which deals with human behaviour is also difficult as manipulating at both human and organisational levels can be daunting.

3.4.2.2 Surveys

Surveys can be used as a research approach at different levels of a research to gather and analyse data. It can be used as the only approach as well as in combination with case study.

The concerns of surveys research method is addressing the particular characteristics of a specific population of subjects, at fixed point in time or at varying times for comparison (Gill and Johnson, 2002; Johnson and Clark, 2006). Surveys involves systematic observation and interviewing, which results in quantitative description of trends, attitudes or opinions of a sample of large population (Creswell, 2007). Fellows and Liu (2008) asserts that it is only in extremely rare cases that a full population is surveyed, which is usually impossible, impracticable or undesirable.

Surveys style focuses on a representative sample of a defined population, using structured interview, observational rating scale or questionnaire with the intention of generalising the results to the larger population (Crabtree and Miller, 1999; Fellows and Liu, 2008; Creswell, 2009). Apart from describing populations, surveys are used to test some conclusion or test how one group differs from another. This is to trace patterns or relationships between variables. Therefore, in order to justify a reasonable inference and to draw a general conclusion about some characteristics or behaviour of a large population, survey method requires that a fairly large representative sample must be surveyed (Fellows and Liu, 2008).

Most surveys researches in social sciences and management involve the use of structured and unstructured questionnaires and interviews (Fellows and Liu, 2008). The standard measurement and sampling procedures inherent in surveys enhance the reliability of observations; facilitate replication and permit statistical analysis of data and generalisation to larger populations (McClintock et al., 1979). This is a characteristics that gives surveys popularity among researchers in construction management (Oppenheim, 2003). However, using surveys in the construction industry research has some shortcomings due to:

- The introduction of error and bias in the investigation, thus compromising the validity of the results. This usually arises from non-response from some

respondents that affects the requirement of sample response rates which is important in survey research.

- Surveys research does not give respondents enough scope to answer questions in any detail or depth (Bryman and Bell, 2007; Fellows and Liu, 2008), which could affect capturing the wide and deep views of participants on the management of project stakeholders in public sector construction projects.

Notwithstanding the earlier strengths of surveys mentioned above, however, in view of the above weaknesses of the method, it was considered unsuitable for the investigation of the current practice of project stakeholder management in the public sector in Nigeria, which requires wide and deep views of participants.

3.4.2.3 Action research

Action research can be viewed as a research method, but sometimes, a term used simply to cover a variety of approaches. A common theme that its users would subscribe to is that its output results from members of an organisation being involved with what genuinely concerns them (Eden and Huxham, 1996). It is the careful and diligent inquiry for the purpose of application to the solution of specific problems which involves the active participation of the researcher in the process under investigation (Punch, 2005; Fellows and Liu, 2008). McCutcheon and Jung (1990) show that action research is characterised as "systematic inquiry that is collective, collaborative, self-reflective, critical and undertaken by the participants of the inquiry", whose goals are to understand practice and articulate philosophy of practice to improve practice. In action research, researchers use intervention in a problem situation and evaluate the impact of the intervention (McCutcheon and Jung, 1990; Eden and Huxham, 1996; Halloway, 1997).

The purpose of action research is not for discovery of new facts or revising accepted laws (Punch, 2005). Contrary to the ideas of inquiry and building knowledge for its sake, it aims to design inquiry and knowledge for solving practical problems (Punch, 2005; Fellows and Liu, 2008). This implies starting from a specific practical or applied problem or question. Action research involves participants in a social situation which rests on some methodological principles (Somekh, 2006). It is oriented towards

outcomes and involves ‘practitioners’ in the research process that concerns their affairs (Tesch, 1990; Eden and Huxham, 1996).

Important to the design and implementation of action research projects are methodological issues on agency, change and generation of actionable knowledge (Somekh, 2006). These methodological issues include:

- Integration of research and action;
- It is conducted by collaborative partnership of participants and researchers;
- It involves the development of knowledge and understanding of a unique kind;
- It starts from all inclusive vision of social transformation and aspirations for greater social justice;
- It involves a high level of reflexivity and sensitivity to the individual’s role in mediating the whole research process;
- It involves exploratory engagement with numerous existing knowledge from the fields of social science in order to test exploratory power and practical usefulness;
- It engenders powerful learning for participants by the combination of research and practical reflection;
- It locates the inquiry to understand broader perspectives of different fields widely.

An important characteristic of action research that makes it different from other designs is its cyclical and iterative nature towards solution to problems (Halloway, 1997; Punch, 2005). The paradigm in action research is criticised for lack of repeatability or rigour (Eden and Huxham, 1996). Investigators who use this approach believe that change can be achieved in the investigated situation (Halloway, 1997).

The challenges in using action research, according to Eden and Huxham (1996) include the following:

- Understanding the methodological issues involved in this approach in practice is difficult and takes time and experience.
- The complexity and pressure of the real world makes the use of action research very challenging.

- The uncertainty and lack of control for anyone other than the confident and experienced researcher creates anxiety.
- Understanding of methods for consultancy and intervention is demanded for doing action in this approach.

On the bases of the above, action research is likely to be a problematic research methodology for doctoral research. Bryman and Bell (2007) further suggests that this approach is limited because the researcher must be part of the participating organisation and must fully understand the organisation as an actor in the process being studied. The approach's limitation also lies in the fact that it will be restricted to a single organisation, thus making generalisation of the findings inadequate, especially for a research seeking to understand and improve the management of stakeholders in public sector construction projects. Therefore, within the context of a research method, this was considered unsuitable for this study or investigation of the current practice of project stakeholder management in the public sector in Nigeria.

3.4.2.4 Ethnography

Ethnography can be viewed as an approach to research, rather than a research method. The definition of ethnography is controversial, as some refer to it as a philosophical paradigm where total commitment is shown in using it; others see it as an approach to be used when appropriate and there are those found between these two positions (Atkinson and Hammersley, 1994). The word ethnography is derived from Greek 'ethnos' meaning people or folk and 'graphy' which refers to describing something (Punch, 2005). The Oxford compact dictionary defines ethnography as "the scientific description of peoples and culture." On the other hand, Bryman and Bell (2007) states that ethnography is a process of making notes and writing up what happens in a group. It is empirical, studying people's lives or culture from the point of view of the participants (Patton, 2002; Taylor, 2002; Punch, 2005). The research process in ethnography is flexible and evolves contextually due to the live realities found in the field setting (Schensul et al., 1999).

Although associated with qualitative research, ethnography can also employ both qualitative and quantitative methods (Taylor, 2002). The term ethnography is

sometimes termed fieldwork and sometimes the qualitative method used to learn about culture (Patton, 2002; Willis, 2007). Ethnography is wide ranging having different associations and traditions in different disciplines (Taylor, 2002). Several arguments support the claim that ethnography is more appropriate for the study of social world than scientific/quantitative methods. Ethnographic study produces situated knowledge rather than universals. The researcher using this approach obtains an insider rather than an outsider view of the society and understanding of other people's worldview (Remenyi et al., 1998; Taylor, 2002). Ethnography requires that the researcher moves into a different community for an extended period, to a tight time framed team project using different formal methods of data collection to, a small-scale project in which the major data is audio-recorded talk (Taylor, 2002; Punch, 2005). Also in this strategy, the researcher studies an intact cultural group in its natural setting for a long time by collecting observational and interview data (Creswell, 2007).

The characteristics of ethnography according to Punch (2005) are:

- When studying a group of people, ethnography assumes that the shared cultural meanings of the group are crucial to understanding its behaviour.
- The ethnographer is sensitive to the meanings that behaviour, actions, events and contexts have in the eyes of the people involved.
- The group or case will be studied in its natural setting.
- Ethnography is likely to be an unfolding and evolving sort of study, rather than pre-structured.
- From the point of view of data collection techniques, ethnography is eclectic, not restricted.

As a social research, Atkinson and Hammersley (1994) states that ethnography has the following features:

- It strongly emphasises the exploration of particular social phenomena rather than testing hypotheses about them.
- It has tendency to use unstructured data at the point of collection due to closed set of analytic categories.
- It investigates a small number of cases (may be one) in detail.

- It analyses data that involves explicit interpretation of the meanings and functions of human actions.

Three simultaneous requirements of ethnographic studies associated with human activities studies according to Silverman (1997) are:

- The need for empirical approach.
- The need to be open to elements that cannot be codified during study.
- Concern for grounding the phenomena observed in the field.

Ethnography is distinctive with no single design attached to it, as its design may overlap in whole or part to other designs (Punch, 2005). The research process here is flexible and evolves contextually due to the live realities found in the field setting (Creswell, 2009). Fellows and Liu (2008) argue that ethnography is suitable for determining meanings and processes through which the members of the group make the world meaningful to themselves and to others.

Since the approach requires intense involvement by the researcher in the daily running of the organisation under study, to gain full insights (Bryman and Bell, 2007; Fellows and Liu, 2008), the approach may therefore be unsuitable for an outsider researcher, which is the case in this research. Therefore, ethnography is deemed to be inappropriate for this study or investigation of the current practice of project stakeholder management in the public sector in Nigeria.

3.4.2.5 Grounded theory

Grounded theory is the discovery of theory from data, which provides relevant predictions, explanations, interpretations and applications (Glaser and Strauss, 1967; Halloway, 1997). It is a set of assumptions and guidelines about the production of knowledge and for empirical research work respectively (Tesch, 1990). In addition, Strauss and Corbin (1998) state that grounded theory is a theory derived from data which are systematically gathered and analysed through the research process. It is further argued that these types of theories offer insights, enhance understanding and provide meaningful guide to action. Here, data collection, analysis and eventual theory are closely related to each other. In generating ideas, abductive reasoning and logic have

been used to contrast with the polar opposites of inductive and deductive logic (Coffey and Atkinson, 1996).

Grounded theory is an approach that is used in qualitative research (Halloway, 1997; Strauss and Corbin, 1998; Charmaz, 2006). It complements other approaches to qualitative data analysis (Charmaz, 2006). Taylor (2002) states that research conducted using grounded theory approach are rigorous and scientific. Charmaz (2006) simply asserts that grounded theory is a systematic and flexible method for collecting and analysing qualitative data in order to construct theories 'grounded' in the data themselves. Although grounded theorists are interpreters, they also search for relationships between concepts and find patterns and links to develop theories. They are usually systematic and detailed in their approach to data (Halloway, 1997).

Grounded theory is not a theory; it is a method, an approach, a strategy whose purpose is to generate theory from data (Halloway, 1997; Patton, 2002; Punch, 2005). The researcher using this strategy derives a general, abstract theory of a process, action or interaction grounded in the views of participants (Creswell, 2009). Lee (1999) contends that the purpose of grounded theory is the generation of new theory or conceptual propositions. It also modifies or extends existing theory (Halloway, 1997). It is applied in the examination of phenomena that are not well understood (Halloway, 1997; Punch, 2005). It is specific and different, cutting across other designs, as well as both a strategy for research and a way of analysing data (Punch, 2005). However, its underlying assumption is that social phenomena are complex and the specific steps toward studying these should be flexible (Lee, 1999). Although it is initially inductive, grounded theory uses deductive processes (Halloway, 1997).

This approach has come under increased criticism for being based on problematic notion and incapable of generating grounded theory or discovering anything new (Thomas and James, 2006). It does not go through the rigour of testing and verification which is normally associated with the formation of new theories (Coffey and Atkinson, 1996; Charmaz, 2006; Runeson and Skitmore, 2008). The nature of this research emanates from the problem identified in project success, why projects do not attain their desired output and outcome, and how success can be improved in project through the

process of project stakeholder management. Considering the above arguments, grounded theory was not considered appropriate, since this research requires building on existing theory rather than generating new theory, on project stakeholder management. Thus, this approach was considered unsuitable for the investigation of the current practice of project stakeholder management in the public sector in Nigeria.

3.4.2.6 Case studies

This is a new research method/approach which is not part of the natural-sciences style positivist philosophy (Gillham, 2000). Case study is a study where concentration could be on a single 'case' (Tesch, 1990). Case study may be conducted alone or in combination with other methods to complement strengths and weaknesses (Yin, 2003; Yin, 2009).

Case study method includes procedures central to all types of research methods. It protects against threats to validity, maintaining "a chain of evidence," and investigating and testing "rival explanations" (Yin, 2009). It is observed that in case study research, a selection of cases typical of or representative of other cases may be useful, but a sample of one or just a few is insufficient to be a strong representative of others (Stake, 1995). This strategy is used in many settings and contributes uniquely to the knowledge of individual, organisational, social, and political phenomena (Yin, 1994; Yin, 2009). The naturalistic style of case study makes it appropriate for study of human phenomena (Gillham, 2000).

In case study, the researcher explores in depth a programme, event, activity, process or one or more individuals (Creswell, 2009). The method is so flexible that can almost entirely be positivistic, phenomenological or anything between these two extremes (Remenyi et al., 1998).

Case study method has long been commonly used in research in public policy and administration and business (Yin, 2003; Yin, 2009). It helps to understand complex social phenomena and when the phenomena are indistinguishable from its context (Yin, 1994; Yin, 2003; Yin, 2009). In case study, one case or a small number of cases are studied in detail and in their natural setting, recognising their complexities and contexts

using any appropriate method (Punch, 2005). However, a case study research is not a sampling research, where a case is used to understand other cases (Stake, 1995). Although a variety of specific purposes and research questions may exist, the objective of case study is the development of full understanding of the case (Punch, 2005). Case study is seen more as a strategy than a method and it contrasts strongly with the reductionist approach of some quantitative research. Although a case study is not necessarily a qualitative technique, most case studies are predominantly qualitative. Its common criticism concerns generalizability and external validity, if based on one case (Eisenhardt, 1989; Punch, 2005; Bryman and Bell, 2007; Yin, 2009).

Case study is the preferred strategy when "how" or "why" questions are being posed, when the investigator has little control over events, and when the focus is on contemporary phenomenon within some real-life context (Yin, 1994; Yin, 2009). According to Yin (2003), it is an appropriate method when investigators are conditioned to:

- Define research topics broadly not narrowly,
- Cover contextual or complex multivariate conditions not just isolated variables, and
- Rely on multiple not singular sources of evidence.

Although this method is a distinctive form of empirical inquiry, most researchers view it as less desirable due to its lack of rigour (Yin, 2009). In addition, investigators using this strategy lack systematic procedures and therefore allow equivocal evidence or biased views to influence the direction of the findings and conclusions. Other concerns about case studies according to Yin (2009) are:

- They provide little basis for scientific generalisation due to single nature of the case.
- They take too long and result in massive, unreadable documents, especially as experienced in the past.
- The seeming emergence of randomised field trials or "true experiment."

Nonetheless, case study can offer important evidence to complement experiments (Yin, 2009). Although the purpose of case study in management literature is the generation of

new theory (Lee, 1999), however, Yin (1994) argues that case study also lends itself to testing of existing theory. Furthermore, case study is similar to laboratory and field experiments in addressing questions but it does not require control and manipulation of variables (Lee, 1999).

A key characteristic of case study research according to Gillham (2000) is the use of multiple sources of evidence, each with its strengths and weaknesses. Eisenhardt (1989) notes that one of the strengths of case study is generating novel theory which is testable, has empirical validity and has linkage with empirical evidence. Case study enable researchers to examine data at micro level, and as alternative to quantitative and qualitative research, they offer practical solution when a big sample population is unobtainable (Zainal, 2007). It is suitable for new research areas or research areas with inadequate existing theory because of its independence from prior literature or past empirical observation (Eisenhardt, 1989). This process of theory building from case study is iterative.

The application of case study within the construction management community is very low due to lack of guidance on its application and the existence of confusion over its merits, as well as misinterpretation of the term (Proverbs and Gameson, 2008). However, case study has strengths which can justify its use in this research to investigate the practice project stakeholder management in public sector projects. Strong arguments for this are:

- Case study permit the investigation of contemporary events, when in-depth understanding of real-life phenomena is required, which encompasses important contextual conditions (Yin, 2009). This is unlike experiment or history which separates phenomenon from context or deals with non-contemporary events respectively. Stakeholder management issues are contemporary issues especially in project management. Since the primary objective of all projects is the satisfaction of the stakeholders and project managers are currently more concerned about the project stakeholders in the management of their projects, thus a contemporary issue, which would require case study to carry out thorough investigation.

- The focus of case study lies in its descriptive, exploratory and explanatory nature. It also allows for in-depth investigation of complex relationships (Yin, 2009). The multiplicity of stakeholders in public sector projects can be dealt with by the exploratory potential of case study (Fellows and Liu, 2008; Yin, 2009). Furthermore, to investigate the practice of project stakeholder management in the public sector for effective management of the project stakeholders would require the in-depth description of the practice in case studies.
- The ability of case study in building and testing theories in research gives it advantage in providing convincing analytic conclusions (Eisenhardt, 1989; Bryman, 1995; Yin, 2009).
- Case study has the advantage of providing inductive and deductive approaches using both qualitative and quantitative strategies (Bryman and Bell, 2007; Yin, 2009).
- There is also the advantage of the applicability of findings, multiple data types and collection techniques that case study offers (Bryman, 1995; Yin, 2009). Thus, a study to investigate the practice of project stakeholder management in the public sector would require the use of multiple data types and collection techniques to understand the practice, and to also ensure the applicability of the findings.

The above advantages about case study notwithstanding, it could still be unfavourable for weakness in generalizability and external validity (Eisenhardt, 1989; Punch, 2005; Bryman and Bell, 2007; Yin, 2009). The critics of this approach believe that small number of cases can offer no grounds for establishing reliability or generality of findings, intense exposure to the study of the case biases the findings and that the approach is useful only as an exploratory tool (Soy, 1997).

However, internal validity as well as matching the research method with the questions and data required is very important (Punch, 2006). Yin (2009) argues that the goal of case study is expanding and generalising theories and not showing frequencies, thus advocating theoretical propositions and not populations. Case study provides for in-depth study as opposed to scope in surveys research (Fellows and Liu, 2008). The main

concern of this research about the potential limitations of using case study, as Yin (2009) and Eisenhardt (1989) have argued, are attempting to generalise the findings and the axiological concerns of rigour and validity.

Weighing the strengths and weaknesses of case study as reviewed above, it can be argued to offer the suitable approach to investigate the current practice of project stakeholder management in the public sector in Nigeria. This is considering that the investigation is concerned about expanding and generalising theory through in-depth understanding of the practice of project stakeholder management using multiple sources of evidence. The section below describes the case study design for the investigation of the current practice of project stakeholder management in the public sector in Nigeria.

3.4.2.7 Case study design

In order to achieve the maximum benefit of any research method chosen, especially case study, it is imperative to focus on the methodology and procedure (Stake, 1995; Remenyi et al., 1998; Bryman, 2001; Punch, 2005; Bryman and Bell, 2007; Fellows and Liu, 2008; Proverbs and Gameson, 2008; Yin, 2009). There are case study research designs proposed by some authors such as Stake (1995), Soy (1997), Fellows and Liu (2003), and Yin (2009) showing how case study research can be conducted successfully. Therefore, for developing the research methodology for the purpose of this investigation, guidance was taken from these authors. Specifically, the following steps as proposed by Soy (1997) and supported by the majority of the above authors was adopted:

- Ascertain the research questions/problems and thrust of the research;
- Select and decide on the number of cases;
- Determine data gathering techniques;
- Prepare to collect data; and
- Collect and analyse the data.

3.4.2.7.1 Ascertaining the research questions/problems and thrust of the research

In case study, the first step is to establish a firm research focus which helps the researcher to refer to over the period of the study (Soy, 1997). This is achieved by

defining the research question which helps to know the exact type of data needed and their significance to the study, to avoid collecting unnecessary volume of data (Yin, 2009). However, while the aim in any research may remain the same, the research questions keep changing and evolving in order to achieve the aim (Gillham, 2000). In-depth study of the case is done using a variety of data collection techniques which produce evidence leading to understanding the case and answering the research questions (Soy, 1997). Therefore, the conclusion of a research is reasonable on the basis of how the research questions are clearly formulated and followed consistently throughout in the study. Similarly, the characteristics of a good research question are how it helps to achieve the research aim and its capability of being answered in the research (Gillham, 2000; Jupp, 2006).

Case study generally answers one or more "how" and "why" questions (Yin, 2009). Review of relevant literature in the subject area helps in precisely knowing the research questions to the problem (Soy, 1997). The initial motivation for this research study aimed to understand why project success in public sector construction projects in Nigeria is hindered. Consequent upon that, the review of the relevant literature and body of knowledge on project management reveal that project success in the public sector construction projects in Nigeria is hindered implicitly by issues associated with project stakeholder management. As a result, it was considered important to understand how project stakeholder management could contribute to facilitating project success in the public sector construction projects in Nigeria. Thus, to achieve that, it was essential to investigate and understand the practice of project stakeholder management in the public sector in Nigeria, to provide insights on the improvement of the practice, to facilitate project success.

3.4.2.7.2 Selection and decision on the number of cases

Another important design phase in a case study is selecting and deciding on the number of cases to use (Soy, 1997). However, this as well as the justification for the potential cases to be adopted is difficult to pin (Proverbs and Gameson, 2008). In order to overcome that, it is important to keep referring to the research purpose, which will help in paying attention to which cases, single or multiple and evidence that will satisfy the purpose and answer the questions raised (Soy, 1997).

Eisenhardt (1989) asserts that the "population", which defines the set of entities to draw a research sample from, is very important in selecting a research case. In addition, the appropriate population helps control extraneous variations and defines limits for generalising research findings. However, the idea of a "population" and "sample" in case study shows that the findings of the research can hardly be statistically generalised. This according to Yin (2009) is baseless, as the generalisation from a case study is an analytical one.

Usually, after defining the population, the next step is to select the samples within the population, which can be done randomly or subjectively. Although random sampling could be used, it is unnecessary and not preferable in case study design (Eisenhardt, 1989). Evaluation of the current practice of project stakeholder management in the public sector construction project in Nigeria requires careful selection of cases to understand deeply the management of project stakeholders in practice and how that can be improved, which random sampling will ignore. Glaser and Strauss (1967) and Pettigrew (1990) support this, stating that theoretical sampling are more preferable if cases are to extend emergent theory or fill theoretical categories, unlike statistical sampling which is aimed at obtaining accurate statistical evidence.

Case study can be based on a single or multiple cases. However, when multiple cases are used, each case is treated as a single case where the conclusion from each case contributes to the whole study (Soy, 1997). The choice of a single or multiple cases however depends on the aim and objectives of the study. According to Proverbs and Gameson (2008) and Soy (1997), a single case study focuses on investigating a particular unit chosen for specific reason involving the detailed exploration and scrutiny of that unit, whereas multiple case approach would involve two or more units chosen to demonstrate distinct characteristics such as geographic regions and a variety of size parameters. However, Yin (2009) argues that whether single or multiple, each type can contain one unit of embedded analysis, such as a case study involving a single industry and a firm participating in that industry. The rationale for selecting single case design according to Yin (2009) should be:

- Critically testing a well-formulated theory;

- The case involving an extreme or unique situation;
- A revelatory case which allows the researcher to observe and analyse a phenomenon previously inaccessible to scientific investigation; and
- A longitudinal case, studying the same case at two or more different points in time.

Nonetheless, using a single case study has the problem of applicability because the results are drawn from only one case and confidence, if the case is later found to be a wrong case, thus wasting time and effort (Proverbs and Gameson, 2008; Yin, 2009). On the contrary, Yin (2003) argues that using multiple case study is more robust and is best when very little is known about the topic; "how" and "why" are the questions posed; the researcher has little control over events; and the focus is on contemporary phenomenon within real-life context.

Consequently, two research questions were raised for this study, which were based, initially on "why" and then on "how" as stated above; the researcher had little control over events; and real-life contemporary phenomena were involved, four cases were chosen for this study for in-depth study, and the research question addressed all these conditions. The "why" question was raised to understand the hindrance on project success through description of the reasons and the "how" question was raised to understand the solution to the "why" question also through description of the solution. Thus, "why is project success in the public sector in Nigeria hindered?" and "how can project stakeholder management facilitate project success in the public sector in Nigeria?" In this study, a balance position similar to the view of Eisenhardt (1989) was taken, whereby each case was intimately examined as a stand-alone entity prior to cross case comparison and generalisation. This was to understand each case as an entity. The sections below discuss other additional considerations in the selection of the case study method.

3.4.2.7.2.1 Rationale

The selection of cases in case study research is guided by two schools of thought; probability and non-probability sampling. According to Eisenhardt (1989), random sampling in case study is unnecessary and not desirable as few cases may lead to biases

which can be unfruitful. In addition, Miles and Hubberman (1994) asserts that the potential for richness and variety of findings are not encouraged in randomised selection. On the other hand, Yin (1984), Yin (2003), Yin (2009), Strauss and Corbin (1998), and Eisenhardt (1989) argue in favour of theoretical sampling, in which cases are chosen either to literally or theoretically replicate other cases; to extend emergent theory; or to fill theoretical categories and provide examples of polarity.

This research aligns with the argument for theoretical sampling, to achieve the objectives of the research. This is to ensure that the cases selected answer the research questions in terms of understanding why project success is hindered and how project stakeholder management could facilitate project success. Several stakeholder researches that employed the case study approach have been reported in the literature. For example, a case study research by Sutterfield et al. (2006) show that projects can be beset by the agenda of various stakeholders within the organizational structure. Also, Aaltonen and Kujala (2010) undertook a case study to develop a set of propositions that increase the understanding of the potential of secondary stakeholders to influence the project management's decision making during the different phases of the project lifecycle. When this occurs, the implementation of a strong project stakeholder management strategy is necessary to increase the likelihood of success. Furthermore, Luyet et al. (2012) proposes a comprehensive framework to implement stakeholder participation in environmental projects, from stakeholder identification to evaluation using the case study.

It is noted that the selection of the cases in case study cannot avoid the subjective intervention of the researcher, if the object of the study is to be clearly defined. This is to ensure that access to participants and information/data are possible. Thus, to answer the research questions and achieve the objectives of the study, four cases were selected in Nigerian public sector, which have multiple project activities, multiple and diverse stakeholders, and because these were the cases that the research participants were willing to participate in the research and provide access to data/information. Moreover, the four cases were adequate to ensure financial and timely practicalities and for ease of cross case analysis. Furthermore, the choice of four cases agrees with the argument of Yin (2009) that, a simple and unique research can be upheld or refuted with few cases,

while complex and slightly differing theories require large number of cases. Although there is no ideal number of cases that must be met, Eisenhardt (1989) states that cases between three and ten are common, depending on the intended depth of the study. In addition, it is feared that less than three cases will cast doubt about the generalizability of the results and more than ten cases would complicate the analysis. Thus, using over fifteen cases has been discouraged by Miles and Hubberman (1994), just as Bryman (1995) suggests that survey would be considered preferable when unusually high number of cases over ten are contemplated. These limits and the consideration for balance between depth and breadth, access to participants and information/data, and financial and time constraints guided the choice of the number of cases.

Furthermore, although the population of this study is the public sector in Nigeria, however, the public sector is large and complex comprising of education sector, the health sector, the transport, the power and energy sector, among other sectors. As a result, any study involving the entire public sector can be daunting. Also, any of these sectors is large and complex, especially the education sector comprises the primary education sub-sector, the secondary education sub-sector, and the tertiary or higher education sub-sector. Similarly, when the tertiary or higher education sub-sector is considered, there are the universities and polytechnics and colleges of education. Also, any study involving project and project stakeholder management in the entire of any of these education sub-sectors could equally be daunting, therefore, for efficiency and effectiveness of managing the study successfully, considering a theoretical selection of cases that could extend emergent theory or fill theoretical categories as argued by Glaser and Strauss (1967) and Pettigrew (1990) is the preferable guide to the selection of cases. Consequently, four public federal universities have been considered in this study, and the choice of the four particular universities is informed by potential for having access to participants and data, as well as minimum cost implication to the study and regional homogeneity. In addition, the public sector in Nigeria generally have common problems that hinder project success as shown in Section 2.1, therefore, the choice of the particular universities which are part of the public sector could be justified, more so, if the report of the needs assessment of Nigerian public universities is considered.

3.4.2.7.2.2 Design and logic of case studies

It is important that the identity of each case is rigorously maintained throughout the research process (Aritua, 2009), although, also ensuring that the case study design is flexible to allow for dealing with emergent issues (Eisenhardt, 1989). However, the concerns and criticisms about the shortcomings of case study research centre on validity and reliability, as captured in the literature as mentioned below:

- Bias threat (Yin, 1984; Stoecker, 1991; Yin, 2003; Yin, 2009).
- Lack of rigour (Fenn, 1997).
- Inability to generalise beyond the cases (Gummesson, 2000).
- Lack of statistical validity (Gummesson, 2000).
- Long and tedious results produced (Miles and Hubberman, 1994; Yin, 2009).

This study used the tests of validity, as described below to ensure the quality of this research.

3.4.2.7.2.3 Construct validity

Different positions have been given on construct validity. For example, Yin (1984) and Yin (2009) refer to construct validity as the establishment of appropriate operational measures for the concepts under study. To ensure construct validity, Eisenhardt (1989) and Yin (1984) suggest the use of multiple sources of evidence. Other suggestions are that, key informants should review each draft case report (Stoecker, 1991); no prior assumptions should be made prior to analysis and any assumed relations should be refuted at the earliest opportunity (Silverman, 2000); and most measures should be taken at the data collection phase (Yin, 2009). Being cognisant of these suggestions and in order to address construct validity issues, this study employed the use of multiple sources of evidence and/or multi-perspective data sources, which include interviews, project documents, and project observation.

3.4.2.7.2.4 Internal validity

This is the degree to which an observed and measured effect relates to an identified cause, instead of bogus relationship (Fellows and Liu, 2003). To deal with internal validity, some suggestions have been proposed, such as case comparison and

triangulation (Stoecker, 1991; Silverman, 2000); using pattern-matching (Yin, 2009); and doing explanation building exercise at every opportunity (Stake, 2006). Furthermore, internal validity issues are best addressed at the data gathering stage (Yin, 2009). This study depended on literature review and content analysis as described by Krippendorff (2004) and Neuendorf (2002), to identify the issues, as well as decided on the cases based on theoretical sampling.

3.4.2.7.2.5 Reliability

This is the ability to repeat the study using identical procedures and obtaining similar results or conclusions (Gummesson, 2000; Yin, 2009). To ensure this, the research used case study protocol for data collection and management within the cases and the use of case study database for audit trail of all data collected for analysis. The detail protocol addressed issues such as procedures for initial contact; data sources; time table for data acquisition, documentation and log.

3.4.2.7.3 Determination of data gathering techniques

An important strength of the case study approach involves the use of multiple sources and techniques in the process of gathering data. Usually, the researcher determines in advance the evidence to gather and the techniques to apply to gather the data, to answer the research questions. The data in this case are normally largely qualitative, but may also be quantitative. The tools for data collection can include surveys, interviews, document review, observation, and the collection of physical artefacts (Yin, 1984; Soy, 1997).

Other tools used in organisational and management research include:

- Self-administered questionnaire (Bryman, 1995; Gill and Johnson, 2002).
- Structured and semi-structured interviews (Bryman, 1995; Fellows and Liu, 2008; Yin, 2009).
- Participants observation (Gill and Johnson, 2002; Creswell, 2009; Yin, 2009).
- Structured observation (Creswell, 2009; Yin, 2009).
- Archival records (Gill and Johnson, 2002; Yin, 2009).
- Other miscellaneous methods – simulation, physical artefacts (Fellows and Liu, 2008; Yin, 2009).

It is imperative for the researcher to use designated data gathering tools systematically and properly to collect the evidence (Stake, 1995). Researchers must also ensure that throughout the design phase, the study is well constructed to ensure construct validity, internal validity, and reliability (Yin, 2009).

Construct validity requires the correct identification of measures for the concepts being studied by the researcher. Internal validity (especially useful with explanatory or causal studies only) shows that some conditions lead to others and require the use of multiple pieces of evidence from multiple sources to uncover convergent lines of inquiry. A chain of evidence is established by the researcher from striving forward and backward. Reliability is the stability, accuracy and precision of measurement which can be repeated, with the same results (Yin, 2009).

In a case study design, the procedures are documented to ensure repeatability and obtaining the same results. In order to ensure that sufficient evidences are captured, this study used semi-structured interviews, observations, and project documents review. Self-administered questionnaires and structured interviews were not used in this study for reasons as given for surveys. Participant and structured observations were not considered feasible as the issues considered in the study required the understanding and explanation of the practice of project stakeholder management, which support the argument of Pettigrew (1979) on understanding and background explanation of issues. Semi-structured interviews, observations, and review of project documents were the preferred methods for data gathering, which align with the recommendation of Denzin and Lincoln (2000). In addition, the benefit of flexibility without compromising the rigour of the study is enjoyed in these techniques employed.

3.4.2.7.4 Preparation to collect the data

Since multiple case study research generates large amount of data from multiple sources (Stake, 1995; Soy, 1997; Yin, 2003), adequate preparations were made in advance to prevent the researcher from becoming overwhelmed by the volume of data and losing sight of the original research purpose and question. Early preparation assist in handling large volume of data in a documented and systematic fashion, by preparing databases to

categorise, sort, store and retrieve data for analysis (Soy, 1997). In addition to possessing the desired skills, a good preparation should also include training for a specific case study; developing a protocol for the investigation; screening candidate cases; and conducting a pilot case study to remove obvious barriers and problems (Yin, 2009).

Following the training is selecting a pilot site and conducting a pilot test using each data gathering method to uncover and correct problematic areas. Researchers must anticipate key problems and events, identify key people, prepare letters of introduction, establish rules for confidentiality and actively seek opportunities to revisit and revise the research design in order to address and add to the original set of research questions (Soy, 1997).

As a preparation, the researcher undertook extensive literature review to acquire the required skills on how interviews are prepared for and conducted; questionnaires are prepared, administered, and collected; documents are sourced and information extracted. To conduct the interviews for this research, interviewing techniques which are well covered in construction and management research were referred to in order to gain skills. The skills needed and the strengths and weaknesses of different types of interviews have been described by Oishi (2003), Oppenheim (1992), Oppenheim (2003), Smith (2005), Kitzinger (2000), Bowling (2002), Britten (2000), and Morse and Richards (2002). On the bases of literature review and content analysis on project success and project stakeholder management shown in Chapters 2 and 4, the areas to be addressed in the interviews were derived and developed, and were used to shape the protocol. Multiple interviews were planned to be conducted within each case to gain different perspectives, but also to avoid the possible pitfalls of relying on a single respondent as an accurate reflection of the organisation.

In addition, to acquire more skills, courses on handling long essays in Microsoft Word; data in Microsoft Excel; NVivo; and SPSS to handle the data to be obtained for the research were undertaken.

Prior to the collection of the data, a case study protocol to guide the data collection was designed (see Table 3.5). Also, a pilot study was undertaken, prior to the actual data

gathering from the main cases, to test the conceptual model, validate the case study protocol, to test the feasibility of data gathering techniques/instruments and the interview main questions and their sensitivity. In addition, the pilot test was to estimate the time that each participant would require during the interviews. The essence of this was to test the suitability and appropriateness of the techniques/instruments employed for gathering the required data. The feedback helped to fine-tune the data collection process and techniques/instruments and improved the research design method adopted for the study.

3.4.2.7.4.1 Case study protocol

As part of the research framework, a case study protocol was prepared prior to the investigation, which addressed the issues of replication logic, validity and reliability. This was structured into three main sections comprising instruments, procedures and general rules which the data collection process followed.

The protocol played the following roles in this research:

- Provided the framework that addressed the emerging findings resulting from the theoretical review.
- Produced consistent format; type; and methods employed between cases that allowed meaningful cross-case comparisons, while improving reliability and rigour.
- Explicitly specified the methods used for data collection that also ensured repeatability of the process.
- Ensured that no important sources of data were missed out in any case study, as well as ensuring that the right interviewees were approached.

Table 3.5 Outline of case study protocol

Protocol heading	Content
Contacting cases	This was phased in order to have the process organised
	Phase 1 – emailed and phoned organisations/prospective participants and introduced self and established acquaintance, delivered research advance briefing documents, consent forms and conceptual model for study.
	Phase 2 – planned interviews dates/appointments, access to documents and projects.
	Phase 3 – conducted interviews, observe projects, collected documents, started analysing data, transcribed/coded data, more analysis.
	Phase 4 – made follow-up phone calls/emails to obtain more data/information and maintain rapport with organisations/interviewees to enable feedback and keep prospects of future research opened, more analysis.
Data sources	Comprised targeted individuals and organisations approached. Provided the basis for keeping a diary for arranging interviews with individuals.
Main interviews and documents	Presented checklist of information required. Data sources and strategies to acquire the data proposed.

3.4.2.7.4.2 The issues in the investigation

These were meant to show to the interviewees the issues to explore in the case study protocol. The proposition in this research is that the link that exists between project success and project stakeholder management could be explored and extended to the public projects in Nigeria to facilitate project success in the public sector. Effective project stakeholder management is argued to be achievable through systematic approach to project stakeholder management process, which a number of authors have argued as shown in Section 4.4.

The issues addressed in the interviews dealt with issues in the conceptual model (see Chapter 4) and how the client organisations managed their projects and project stakeholders to achieve success. The questions answered included the existence of project stakeholder management process, participants in the project stakeholder management processes, qualification of participants in project stakeholder management, techniques of project stakeholder management, and outputs of the project stakeholder management process – all of which receive little/no attention in current literature about, and practice of, stakeholder management. Other issues that the interviews addressed were the project characteristics, project success, and factual data about the project. These included project cost, time/duration, quality/specifications, performance, and satisfaction.

The project documents sought for access and observations were to add/fill/corroborate the information/data that were obtained from the interviews. These also formed the bases for further questions in the face-to-face and telephone interviews.

3.4.2.7.4.3 Research interview advance briefing

The research advance briefing information presented the essence of the research, which included the aim of the research; its industrial relevance and benefits; the support, assistance, information and access required by the researcher, from the research participants and organisations. These were clearly stated so that the interviewees were aware of what to expect at the interviews and the time to be engaged in the research. This is because the researcher is aware that the interviewees are busy people who would not want their time to be 'wasted'.

The research advance briefing information was developed from the case study protocol, stating the research aim and objectives, confidentiality statement, and the primary research question in order to prepare the interviewees. This was sent or conveyed through email and telephone and follow-ups to this were made shortly before the interview.

3.4.2.7.4.4 Documents and records

The research being on public sector projects and the cases being public sector organisations, the documents and records required were expected to be in the public domain. The data/documents requested from the case study organisations included:

- Organisational charts and records;
- Annual reports and performance related reports;
- Press releases and newsletters;
- Projects' meetings minutes and other records;
- Other statutory committees/boards meeting minutes related to the projects;
- Selected presentations; and
- Relevant literature in the public domain.

The objective of these was to obtain the complete picture of what happened on the projects and to extend interview data.

3.4.2.7.4.5 Data codification

In order to make sense of the volume of unstructured text data collected, re-ordering and re-arranging of the data was done, for clear identification of common themes and for making comparisons, as suggested by Aritua (2009). To achieve this, the interview data were codified and categorised, as recommended by Dey (1993), to serve as an audit trail. The interviews were transcribed in *MS* word so that NVivo can abstract the text, thus making the qualitative analysis and tracing of emerging common themes (for better understanding of the research question(s)) from the sub-headings of the research case study protocol possible. Furthermore, the process of data codification and establishing nodes from common themes and responses from interviewees is characteristic of NVivo, which is easily achieved when common sets of questions are explored in the cases.

3.4.2.7.4.6 Interview log and data trail

To easily trace every document from a volume of large information, it was important to develop a tracking methodology. This was done in such a way that the identities of the individuals that provide the information are not disclosed. According to Mayer et al. (1995), this approach is designed based on best practice from *Integration Definition (IDEF) method for Process Description Capture (IDEF3)* to assist in documentation and data analysis. For example, the reference Inv-AM-SQS-040612-C may refer to the interview at the investigative stage (Inv) held with Ahmad Mustapha (AM) from Case Study C on the 4th June 2012 (040612). This system helped kept track of the interviews in the interview log and in using NVivo to analyse the data.

3.4.2.7.4.7 Ethical issues and confidentiality

The research into project stakeholder management in the public sector, which involves information/data of human participants was bound to be fraught with ethical issues around commercial sensitivities, intellectual property issues and confidentiality issues. This is the position of several authors such as Johnson and Clark (2006) and Berg

(2007). Case study research requiring data from interviews as a data collection technique considers ethical issues as a main concern for data protection, confidentiality and informed consent (Gray, 2004). Thus, handling ethical issues and confidentiality were considered as part of the research design and methodology.

Although it is recognised that with regard to interviews, intuitive logic suggests that audio tape recording affects the freeness of speech of interviewees. However, Roberts Jr. and Renzaglia (1965) demonstrate that audio tape recording has no significant impact on interviewee response. As a result, audio tape recording was sought as appropriate to capture responses and to reduce the time that would have taken to take detailed notes of respondents. However, permissions of the interviewees were sought and were made to feel at ease while emphasising the confidentiality/ethical approach to the research.

Two principal philosophies; *Utilitarian* and *Deontological* schools of thought govern research ethics. While the *Utilitarian* school of thought proposes the maximisation of the benefit of the majority by the researcher, the *Deontological* school of thought requires the researcher to respect the autonomy of individuals involved in the research (Hughes, 1994; Phillips and Pugh, 2005). This thesis subscribes to the Deontological philosophy, where the ethical issues associated to the research are data collection, analysis and interpretation, and writing and dissemination of the research.

The *Ethical Issues in Data Collection* involved the respect for the participants and the organisations. As a result, confidentiality agreements were signed with each data source as required by the guidelines set by the University of Leeds and the participating organisation. In addition, the privacy of interviewees and data sources has been carefully protected, to reduce the potential to jeopardize the commercial or personal interests of the participating individuals and organisations, the researcher, and the University of Leeds. Furthermore, minimal disruption of the interviewees was ensured.

Ethical issues in Data Analysis and Interpretation considered the protection of the anonymity of individuals, their roles and specific incidents. In line with the recommendation of Bickman and Rog (1998), data obtained and analysed should be

kept for a period of 5-10 years and then discarded. The research participants were informed of this which calmed fears regarding confidentiality and data protection. The data collected has been made commercially confidential, thus, only members of the research team have access to them. Consequently, the data obtained are strictly used for only the purpose of this research, and any subsequent use will seek the approval of the participating organisations.

Ethical Issues in Writing and Disseminating Research – While there is no publication on this research yet, the researcher will ensure that any publication of the findings of the research in the future will be done within the framework of the confidentiality agreement. Thus, for any publications based on this thesis, the researcher will send an advance copy to the respective organisations for approval prior to publication. The participating organisations have requested for non-disclosure of information; therefore, some of the data obtained cannot be directly published without the permission of the organisations. Any publication following the preliminary analysis of the data and its circulation is limited to the supervisors of the research. Thus, confidential agreement was assured and undertaken to protect all data; use nicknames instead of real names; and organisations and individuals in the research are not identifiable in any publications, unless their prior consents are obtained.

As a requirement, the University of Leeds *research handbook* stipulates principles for professional integrity in research requiring a sense of responsibility on the researcher towards the society and the civil engineering profession. Therefore, to conform to the University of Leeds policy on ethical issues for this study, rigorous ethical review processes were undertaken. In considering ethical approval by the University of Leeds' Ethics Review Committee, the following ethical issues were considered.

- balance of risk and benefit;
- physical and psychological health and safety of subject-participants;
- obtaining informed consent, and related questions;
- inducement to participate in research;
- conflicts of interests;
- confidentiality;
- data protection;

- intellectual property issues;
- monitoring and audit of research conduct.

Having addressed and satisfied the requirements stated above, the University of Leeds Ethics Review Committee approved the gathering of data for this research. Table 3.5 shows the outline of the protocol used for the gathering of the empirical data. Tables 5.1 – 5.17 and Tables E1 – E60 in Appendix E present the empirical data from the cases, based on interviews, project documents, and observations.

3.4.2.7.5 Collection and analysis of case study data

Multiple sources of evidence must be comprehensively and systematically collected and stored by the researcher, in formats easily referenced and sorted so that converging lines of inquiry and patterns can be uncovered. Researchers carefully observe the object of the case study and identify causal factors associated with observed phenomenon. Renegotiation of arrangements with the objects of the study or addition of questions to interviews may be necessary as the study progresses. Although case study is flexible, however, when changes are made, they must be documented systematically (Soy, 1997).

Qualitative interviews, observations, and project documents were the techniques or sources used for data collection. The choice of qualitative interviews is an appropriate method which is favoured by case study exponents (or proponents) for intensive detailed examination (Chapleo and Simms, 2010). The use of project documents and observation were to satisfy the condition of multiple sources of evidence (Yin, 1984).

Field notes and databases are used in most case studies to categorise and reference data for subsequent reinterpretation. Field notes record feelings and intuitive hunches, pose questions and document the work in progress. They record testimonies, stories and illustrations which can be used in later reports. They may warn of impending bias due to detailed exposure to special attention or give an early signal that a pattern is emerging. Furthermore, they assist in determining if the inquiry needs reformulating or redefining based on what is being observed. However, field notes should be kept separate from the data being collected and stored for analysis (Soy, 1997).

Maintaining the relationship between the issue and the evidence is mandatory. The researcher may enter some data into a database and physically store other data, but the researcher documents, classifies and cross-references all evidence so that it can be efficiently recalled for sorting and examination over the course of the study. The data for the research were collected and sorted accordingly, ensuring that every data refer to the participant and case the data were obtained from. The data gathered were also categorised according to the technique used. A log with specially designed references to trace each source of data was developed prior to data collection.

In order to gather the data for the three phases of a project life cycle proposed in this thesis, each participant identified and selected one project (see Sections 5.1.1 – 5.1.4) and was interviewed on. To ensure that the three phases in the project life cycle were covered, at least one project from each of the three phases was chosen, in each case study. However, in Case Study D, where there was only one participant, one project each from three of the phases was identified and selected, and interviewed on. The responses of the participants are presented in Tables E1 – E60 in Appendix E.

3.4.3 Analysis of the strengths and weaknesses relating to the management of project stakeholders in the public sector in Nigeria

Although difficult and the least codified part of the process, analysing data is the heart of building theory from case studies (Eisenhardt, 1989), which starts as soon as data becomes available and a strategy is usually developed in advance of collecting the data (Miles and Hubberman, 1994; Yin, 2003). Many interpretations can be used to examine raw data, in order to find linkages between the research object and the outcomes with reference to the original research questions. The researcher should be opened to new opportunities and insights during the evaluation and analysis process. The multiple data collection and analysis techniques in case study allow researchers to triangulate data in order to strengthen the research findings and conclusions (Soy, 1997).

Proverbs and Gameson (2008) show that the best approach in analysing case studies is to focus on using the original objectives of the study to help determine and guide the researcher or the use of rival explanations or theories, investigated through the data collection techniques employed.

Soy (1997) argues that “the tactics used in analysis force researchers to move beyond initial impressions to improve the likelihood of accurate and reliable findings. Exemplary case studies will deliberately sort the data in many different ways to expose or create new insights and will deliberately look for conflicting data to disconfirm the analysis”. The best preparation for conducting a case study analysis is to have a general analytic strategy in place followed by specific analytic techniques (Yin, 2009). These strategies are:

- Relying on the theoretical propositions that led to the selection of case study;
- Developing a case descriptive framework for organizing the case study;
- Using both qualitative and quantitative data if possible to follow a strong analytic strategy; and
- Examining rival explanations along with any of the three strategies above.

The analytic techniques include pattern matching, explanation building, time-series analysis, logic models and cross-case synthesis which are effective in laying the groundwork for high-quality case studies.

- Pattern matching compares an empirical based pattern with a predicted one or several others over a period of time and capable of making credible changes or improvements (Gillham, 2000; Yin, 2009).
- Explanation building, an alternative or supplement to pattern matching is relevant to exploratory case study and the researcher does not start with a theory to be investigated but attempts to induce theory from the case examples chosen to represent diversity on some dependent variables (Yin, 2009).
- Time-series analysis establishes the existence, sign and magnitude of causal links as well as the temporal sequence of events relating to the variables in a model or framework. It requires observation at multiple points in time in order to establish the size of the effects within or outside the normal range of the time series (Gillham, 2000; Yin, 2009).
- Logic model, also known as a programme logic model, links outcomes with programme activities or processes and the theoretical assumptions or principles of the programme. According to Millar et al. (2001), the logic model is a “word or pictorial depictions of real-life events/processes that depicts graphically the

underlying assumptions or bases upon which the undertaking of the activity is expected to lead to the occurrence of another activity or event".

- The cross-case synthesis is applied specifically to multiple case studies.

According to Yin (2009), using multiple case studies will:

- Treat each individual case study as a separate study;
- Have to create word tables that display data from individual cases according to some uniform framework;
- Examine word tables for cross-case patterns;
- Rely strongly on argumentative interpretation not numeric properties; and
- Be directly analogous to cross-experiment interpretations.

The data generated from the four cases at the investigation stage were mostly qualitative, although some quantitative data were also generated. These data generated, produced about 150 pages of about 62,000 words transcribed from face-to-face interview information from the cases. Also, there was information generated and analysed from project documents and observation notes, as well as phone interviews. As a result of these massive volume of information from the cases and literature review, NVivo 9.1 which is a software that employs coding, annotating, sorting, classifying, generating reports (queries, models, charts, etc.) and enhances the search for trends and relationships (Weitzman, 2000; Richards, 2002; Richards, 2005; Bazeley, 2007; Suter, 2012) for analysing qualitative data was used for the storage, management, and analysis of the qualitative data.

However, the use of NVivo has also been criticised for its tendency to treat categorical indexed slices of data as more concrete variables, therefore conducting quantitative variables analysis (Mason, 1996); fear of mechanising analysis, leading to stifling creativity and reducing variety (Buston, 1997); and increasing homogeneity in methods of data analysis (Coffey and Atkinson, 1996; Welsh, 2002). The coding from the NVivo revealed little/no relationships/patterns within the coded themes/concepts from the research problems (or issues). In place of that, thematic analysis using evidence from the extant theories from the literature was used to analyse the data. This approach was used for both within-cases and across-cases analysis. The quantitative data was used to

draw inferences/conclusions about the data from the cases, to support the qualitative data.

Although qualitative data analysis is demanding, repetitive, arduous, and mechanical (Basit, 2003), however, to be able to reason and theorise, the researcher requires to be dynamic, intuitive and creative. Deconstruction of data by fragmentation and reconstruction into collections of categories which relate conceptually and theoretically (the concept of qualitative analysis), requires human reasoning and intuition (Richards, 2002). This understanding was exhibited in the treatment of the data analyses.

By the design of NVivo 9.1, it deals with large volume of data, visual coding, in-text editing, contextual annotating, and hyper-linking for other documents or multi-media support (Dainty et al., 2000; Weitzman, 2000; Bourdon, 2002; Blismas and Dainty, 2003). NVivo employs hierarchical coding system principle, common to all methods (Bazeley, 2007). However, the tools used in NVivo are methods free, and therefore support a wide range of methodological approaches. The choice of methodological approach for this research considered the suitable and appropriate tools in NVivo.

Following the review of the concepts of project success and project life cycle in Chapter 2 and content analysis of project success, project life cycle and project stakeholder management in Chapter 4, the main concepts and/or criteria (or categories) that influence the success and management of projects and project stakeholders in construction projects were identified and determined. While some of these were identified, others were however determined or inferred based solely on the researcher's perception of theory and data, an argument supported by Dey (1993). The concepts and/or criteria (or categories) also considered as themes were used as nodes (in NVivo), which served as receptors for ideas or perceptions from the qualitative data from the cases. Case study approach, which was chosen for this study involved massive textural data from face-to-face and telephone semi-structured interviews that required breaking down and assigning to relevant categories or themes already developed (Miles and Huberman, 1994; Dainty et al., 2000). The unstructured texts were therefore extracted and coded into nodes identified as common themes, for explanation building and comparisons.

The process of breaking down the textual data into concepts or themes (or categories), and assigning conceptual labels (coding) in a consistent and rigorous manner, could be challenging (Strauss and Corbin, 1990; Strauss and Corbin, 1998; Dainty et al., 2000; Bryman and Bell, 2007; Bryman and Bell, 2011). Thus, for the transparent and consistent application of the methodological process, NVivo software was used. Consequently, with coding in NVivo, similar pieces of information (or data) were tagged with descriptors or labels, and bundled into relevant categories (or nodes) for later explanation building and comparisons. These coded nodes in NVivo represent the issues (or variables) in the project stakeholder management that were investigated, which include, project stakeholder management process, participants in the stakeholder management process, qualification of participants in stakeholder management, techniques of stakeholder management, and outputs of the stakeholder management process. Others include, participant's experience, understanding of the concepts of project management by participants, understanding of the case project factual data. These formed the bases for the interviews, as detailed in Appendix E. All the transcribed interviews, relevant literature materials and paper-based documents (electronically generated and stored), reports, and textually described information/data (as mentioned in the case study protocol and Appendix A) were examined for relevance and appropriateness and coded into nodes in NVivo. The nodes from the interview information/data and other information/data from the cases served to understand the perspectives of the cases on the management of the project stakeholders.

According to Coffey and Atkinson (1996), nodes provide sets of re-contextualised data for identifying links between concepts and associations. Coding bands from the perspectives of the participants from the cases on the issues (or themes) were used to understand views of the participants from the cases on the issues identified in the research. According to Miles and Huberman (1994), it is good practice to try to model codes to view interconnections, when building conceptual framework as groundwork for cross-case analysis. Hagan (2013) observes that, the steps involved in data management from coded data, to representative forms may take different forms, depending on the analytic tool being used and whether the data lends itself to clustering, matrices and/or networks. Highlighted nodes and coding stripes for each node enabled

viewing the relationships between the extant theory in the literature and the findings from the cases.

The transcribed and stored (in NVivo) source data (interviews, project documents/data, observation notes) were coded (in NVivo) into the pre-identified issues (or concepts/themes) as nodes. The data were embedded in context and mapped, where mapping is used to express and explore relationships expressed in the data for highlighting actions and their consequences. The mapping had themes around it numbered to facilitate cross-referencing with the relevant thematic nodes from the literature, for tracing and to also facilitate referencing within the explanatory text. These were used to identify corroboration (or evidence) with already explored and coded descriptive literature positions (in key terms, phrases or expressions) on such concepts/themes, for all participants and cases. In effect, these ensured within-case and cross-case comparisons to identify compliance among participants and cases. Details of the findings are presented in Chapter 6.

3.4.4 Proposal and evaluation of an integrated framework to contribute to the improvement of project stakeholder management in the public sector in Nigeria

The extensive review of the extant literature and content analysis of project success and project stakeholder management in Chapters 2 and 4, the results and analyses of the empirical study of the current practice of project stakeholder management indicate the need for the improvement of the process of project stakeholder management. While in Chapter 2 the importance of project success in the management of projects and poor success in the delivery and management of public projects in Nigeria due to poor project stakeholder management are revealed, in Chapter 4, a conceptual framework to understand the practice of project stakeholder management in the public sector in Nigeria is developed, and the empirical data revealing the practice of project stakeholder management in the public sector in Nigeria is presented and analysed in Chapters 5 and 6 respectively.

A review of the existing project stakeholder management processes in the literature show the need to consider the participants in the stakeholder management processes, qualification of participants in stakeholder management, techniques of stakeholder management, and outputs of the stakeholder management process – all of which receive little/no attention in current literature about, and practice of, project stakeholder

management. These were considered to show the inputs/outputs elements of any process, using the analogy in a chemical process. Considering these in the processes, this research asserts that the existing models could be more practical and effective for the management of project stakeholders. As they are, the existing models look more theoretical, delving more into only proposing the process of stakeholder management, without showing how these could be effectively carried out. Where little consideration has been given to participants in the stakeholder management process, only the project manager or project management team (undefined) have been recognised to manage the stakeholders. However, the emerging concept of project stakeholders showing several stakeholders on a project implies that the concept of participants in stakeholder management needs to be broadened to accommodate key interest on a project.

Also, the results of the empirical studies reveal lack of formal project stakeholder management processes. In addition, the empirical studies reveal lack of wide and deep understanding of the general concept of project management by the project management teams. Furthermore, the results of the empirical studies reveal poor (or lack of) project management information/data system (PMIS) for the documentation and retrieval (maintenance) of project documents.

This objective therefore sought to improve the process of project stakeholder management to facilitate project success in the public sector in Nigeria. Therefore, to address these, this research proposes the development of an integrated framework for the management of project stakeholders. The framework developed considers the requirements of project management knowledge and competence, to improve the competence of the project management team as well as other participants in the project stakeholder management process. Other issues addressed by the framework include consideration of the participants in the stakeholder management processes, qualification of participants in stakeholder management, techniques of stakeholder management, and outputs of the stakeholder management process and PMIS in project stakeholder management process across the project life cycle phases.

3.4.4.1 The process of development of the integrated framework

The development of the integrated framework relied on the need to improve project success through project stakeholder management as shown from the review of the extant literature in Chapters 2 and Chapter 4 and the results and analyses of the empirical study of the current practice of project stakeholder management shown in Chapters 5 and 6. While the extant literature reports the existence of several seemingly theoretical project stakeholder management processes, improvements to the existing models are possible, as mentioned in Section 3.4.4 above.

Based on the argument of this research for effective project stakeholder management process that will ensure project success, an integrated framework that will ensure this, needs to consider the following due to their importance.

- Project life cycle, the relevance of which to the process of managing the project and project stakeholders has been argued in Chapters 2 and 4.
- Project stakeholder management process, which is also argued in Chapters 2 and 4 to provide the framework for the management of the project stakeholders.
- The issues identified to improve the existing models, as mentioned in Section 3.4.4 above.
- PMIS for documentation of project information/data.

These components (or elements) of the framework demonstrate the concept of innovation in organisations, which shows the use of holistic approach and multidimensional factors (Gkiourka et al., 2010) in the development of the integrated framework. The choice of these components to form the framework is informed by their individual and collective importance, as well as the relationship they form to the process of successful project delivery and management (usage/maintenance).

Figure 3.2 below shows how the main concepts for the framework have been progressively developed in the thesis. The figure also shows how the development of the framework and the main concepts in the framework evolved through the combination of theoretical concepts and empirical case study data. The concepts include project management in the public sector in Nigeria, project objectives, project success, project stakeholder management. These were to ensure that the framework developed is theoretically rigorous and practically relevant for industry application, to facilitate project success.

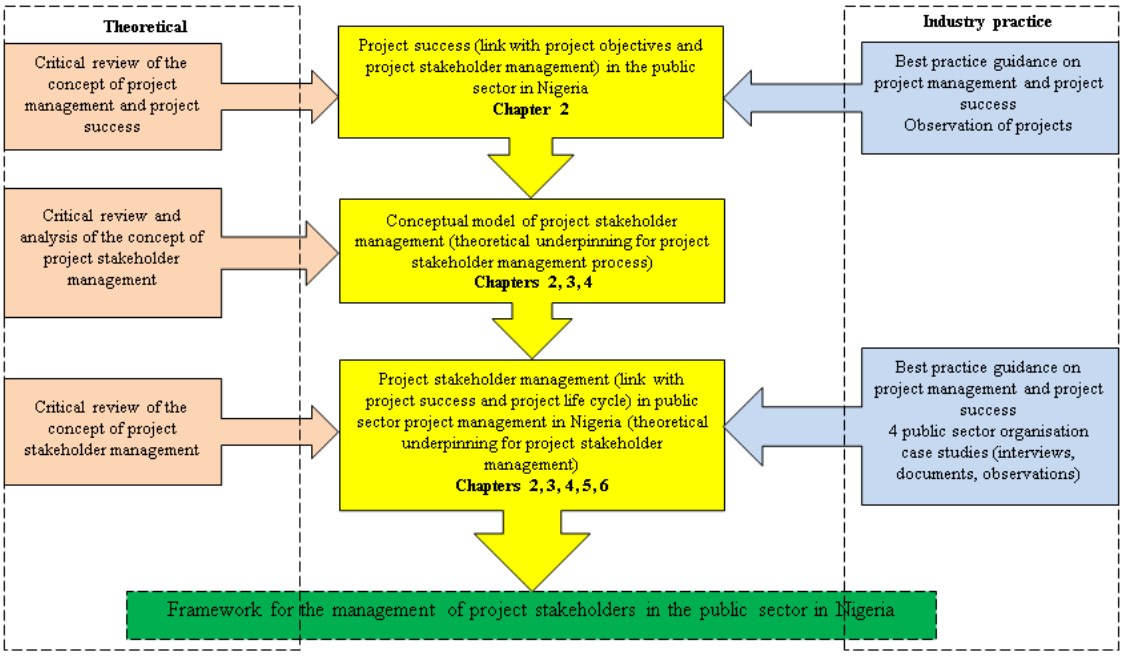

Figure 3.2 Development of integrated framework for project stakeholder management in the public sector in Nigeria

The key elements (or concepts) of the integrated framework were developed considering the following:

- Project management knowledge and competence;
- Project stakeholder management process;
- Project documentation; and
- Project life cycle.

3.4.4.1.1 Concepts of the integrated framework

3.4.4.1.1.1 Project stakeholder management process

Consequent upon the need for a project stakeholder management process for the integrated framework, several project stakeholder management process models in the literature were reviewed and analysed as shown in Chapter 4. As a result, the project stakeholder management process model by Cleland (1986) was adopted for the conceptual framework. The choice of that model is informed by a number of reasons. First, the model contains simple distinct, clearer and more deliverable steps than the other models. Secondly, a critical review of the contents of the steps in the other models

shows commonality. These therefore have made it more comprehensive and possessing more potential to clarify what the composites are to ensure effective stakeholder management process. Details of the adopted project stakeholder management process model are presented in Chapter 7.

3.4.4.1.1.2 Project life cycle

Since projects are executed and managed over a life span, the processes through which these projects are managed are therefore important in the determination of project success. Consequently, for the management of project stakeholders, it is required that the project life cycle is considered. Therefore, project life cycle phases in the literature are reviewed (as shown in Chapters 2 and 4) and an appropriate life cycle for the management of the project stakeholders is adopted. The detail of the adopted project life cycle is described in Chapter 7.

3.4.4.1.1.3 Project management knowledge and competence

The results of the empirical studies shown in Chapters 5 and 6, which reveal narrow and shallow understanding of the concepts of project management related to project success, indicate the need for the improvement of the knowledge and competence of project management teams and other participants in the management of project stakeholders.

Although project management competencies and skills alone are no guarantee for success (Young, 2000), this research argues that the broad and deep understanding of the guidance in the *Project Management Bodies of Knowledge* (Association for Project Management, 2006; Project Management Institute, 2008; Project Management Institute, 2013) and the Competencies (Association for Project Management, 2008) in project management can increase the capacity (or capability) of project management teams and other participants to successfully manage projects and project stakeholders. Thus, the above project management knowledge and competence guides and framework formed the sources of knowledge and competence proposed for the integrated framework. These resources could form sources of knowledge base for professional development to benefit practitioners and/or added to the curriculum for training of prospective project managers. The details of the contents of these methods and guidelines required to make the project management team competent are described in Chapter 7.

3.4.4.1.1.4 Project management information system (PMIS)

The results of the empirical studies reveal lack of proper system of documentation of project management information/data. This led to lack of (or poor) information on the projects studied, which could have also affected management of the projects and stakeholders. Thus, this could have also led to the lack of achieving successful projects. Consequently, and as part of the integrated framework for the management of the project stakeholders in the cases, this research proposes a system of project information documentation that will ensure the storage and maintenance of necessary project data/information. PRINCE Version 1 recommends that all the products of a PRINCE project must be filed (Office of Government Commerce, 1990). Referred to as project filing techniques, it is categorised into management files containing the project file and stage files; the specialist file containing specialist correspondence; and the quality file (Central Computer and Telecommunications Agency, 1996).

The importance of documentation has also been shown by Young (1998), where the project stakeholder list prepared for the project is regularly updated and reissued. This is seen as a communication document to keep every stakeholder informed. After loading the initial data, the system is maintained by the project team through updates. To offer an efficient and effective system of documentation, an information management system is critical to the success of a project (Cleland and Ireland, 2007). A detail of this in the integrated framework is presented in Chapter 7.

3.4.4.2 Evaluation of the integrated framework

3.4.4.2.1 Verification and validation of the integrated framework

In research process, evaluation involves verification and validation. Although these two terms are sometimes confused as meaning the same, they are different. While verification attempts to confirm that the framework is developed right, validation on the other hand attempts to confirm that the framework developed is the right one for the situation. To ensure that the proposed integrated framework developed addresses the issues in the stakeholder management process and to ensure its applicability, it was evaluated as described below.

3.4.4.2.1.1 Verification of the integrated framework

Verification is the generic name given to checking processes which ensure conformity and meeting needs. It is the process of ensuring that the framework is developed right. Since from the data gathered and the analyses that followed showed weaknesses in the practice of project stakeholder management in public sector projects in Nigeria, the development of the framework relied on theories from the extant literature, mostly internationally recognised project management best practice guides (Project Management Institute, 2004; Association for Project Management, 2006; Association for Project Management, 2008; Project Management Institute, 2008; Project Management Institute, 2013) and methodologies (Office of Government Commerce, 1990; Bentley, 2002; Office of Government Commerce, 2009a). Thus, the framework derives its sources of guidance from the well-established and popular project management bodies of knowledge and guides (PMBoK and APMBoK) and methodology (PRINCE2), as well as literatures; as a result, the contents conform and meet the needs of the required framework for the management of project stakeholders.

3.4.4.2.1.2 Validation of the integrated framework

With regard to any study or analysis, validity refers to the degree to which the analysis is properly conceived to address the subject of study (Calhoun, 2012). In validation, multiple strategies are involved which include confirming or triangulating data from several sources, reviewing and correcting the studies by the participants, and having other researchers review the procedures of the research (Creswell, 2007).

Validation evaluates whether the proposed framework is adequate and appropriate to address the issues identified, as well as the concerns of individuals and organisations to benefit from the framework. In this case, validation is used to determine whether the proposed framework is adequate to improve the management of project stakeholders in the public sector in Nigeria to facilitate project success. There are several techniques or approaches for the validation of research.

Focus groups are often used to thoroughly discuss and challenge views and outcomes in the social science and research involving human behaviour. Using focus groups requires

the careful selection of the groups to represent the full range of the target audience who are provided with clear guidelines about the research and they should be well facilitated to manage the discussion (Aritua, 2009). While the advocates of focus groups argue that groups make better decisions than individuals, often generating new ideas due to their tendency to take risks; Kelly et al. (2004) observe that the approach has tendency for strong personalities to dominate proceedings, causing other members to be silent, thus denying other views to be used to test the research. As a result of this, and in addition to the difficulty to gather busy professionals from various spectrums in a particular time and place, this approach is considered undesirable for this study.

Another approach is the use of workshops where the integrated framework is presented to beneficiaries of the framework and other experts, thereafter a questionnaire for validation is presented at the workshop to the beneficiaries and experts to respond to. However, this approach was also found undesirable due to the difficulty of bringing together the beneficiaries and experts together in a workshop, as well as being expensive.

The Delphi approach, used in research where opinions of experts may be solicited. In this approach, consensus is required to be reached from the opinions of the experts.
Although several studies from the proponents of Delphi study, which have argued for the reliability of the technique (Bender et al., 1969; Ament, 1970; Martino, 1972) have been reported, however, the evidence advanced in support of Delphi reliability is less than sufficient (Hill and Fowles, 1975). It is thus observed that, to deal with the reliability problems associated with procedural variations, Delphi method must consider clarity of questions, which must avoid ambiguity; choice of the respondents to ensure experts are chosen, although the definition of experts has not been specified; character of the round one of the questionnaires; administration of the questionnaire; and consensus, indication of how much consensus is enough (Hill and Fowles, 1975).

Hill and Fowles (1975) state that an expert is someone who commands a specialised body of knowledge, and at the forefront of a field, must be aware of the known and unknowns. Although the definition of expert and the selection of experts has not been reported in any Delphi study, however, researchers tend to rely uncritically upon (1)

readily available respondents, who are associates of the research team, employees of the firm sponsoring the research, or professional associates of the principal researcher; (2) other respondents whose reputations are informally known to the Delphi experimenter; or (3) those who meet some minimal formal criteria of involvement in the substantive area of interest, such as membership in relevant professional association (Hill and Fowles, 1975). These selection techniques however place heavy reliance on subjective definitions of the universe of experts or the subjective assessment of which particular persons are experts. Thus such techniques are vulnerable to selection bias (Campbell and Stanley, 1966).

Furthermore, the Delphi literature is also silent about what theoretical, statistical, or heuristic guides can indicate when enough expert consensuses exist to be useful (Hill and Fowles, 1975). However, the most advanced approach used for measuring consensus appears to be the use of simple, but uniformly applied, rules of thumb (Hill and Fowles, 1975). Consequently, applying this rule, Bender et al. (1969) study define consensus as "agreement among at least 60% of the respondents agreeing that 50% or 90% probability of the event occurring within any ten-year period". Hill and Fowles (1975) however observe that although such a standard is reasonable, and represents an improvement over purely subjective assessment, it remains an arbitrary criterion, and suggest that a theory-based or statistically derived standard for assessing consensus would be certainly more powerful.

However, since the integrated framework is developed from evidences from existing theories in the literature and body of knowledge, such as internationally recognised project management bodies of knowledge guides and methodologies, therefore using Delphi approach would amount to refuting the strength of these theories and bodies of knowledge guides and methodologies to the opinions of individuals or groups. Also, if consensus is not reached, then the strength of the theories and bodies of knowledge guides and methodologies may be put in doubt. Therefore, since Delphi is useful when consensus of a group is needed (Hill and Fowles, 1975; Hsu and Sandford, 2007); since according to Perez and Schuler (1982), Delphi is an outlined method of solving opinion problems that have no firm information basis and solved traditionally using face-to-face discussions; the method originated as a tool to obtain the most reliable consensus of

group of experts (Dalkey and Helmer, 1963); and the technique is a method of eliciting and refining group judgments, considering that "two heads are better than one" (Dalkey, 1969; Dalkey, 1972) or "n heads are better than one" (Dalkey, 1972) and where exact knowledge about the issue is not available (Dalkey, 1972). Since the above conditions of Delphi disregard the strengths of the existing theories used to develop the integrated framework, Delphi approach was considered undesirable for this study.

A similar but simpler approach to workshop is the use of only questionnaire through online survey. Rather than bringing the workshop participants under one roof, this approach contacts the participants individually online. Thus, a case study approach to the questionnaire using online survey was used to validate the framework. To facilitate this approach, a show card showing the development of the framework were sent in advance via e-mail to the participants, who studied, raised questions, and understood. Thereafter, the framework and the questionnaire were sent to the participants to respond to the questions, with the opportunity to further ask questions for clarification before responding to the questions.

However, prior to launching the survey, to capture data, it is important to make sure that it works properly, by pilot testing it. According to the Bristol Online Survey (BOS), piloting a survey means, checking that:

- The text in the survey is easy to understand and free from mistakes;
- The mandatory/optional/follow-on settings of questions are correct;
- The survey is accessible to those with disabilities;
- Survey Access Control set-up works and has been clearly explained to respondents;
- Data is captured in the form that is expected, and reporting is useful; and
- Any technology that respondents might be using (assistive technologies, mobile internet, unfamiliar browsers or IT systems, etc.) has been checked and works correctly.

The best way to check these is for the researcher to thoroughly pilot the survey and to ask others to do the same. This advice from BOS was followed in this section of the research. Consequently, the questionnaire to validate the integrated framework was keyed into the BOS and the link sent to the respondents via email. The questions in the questionnaire (see Appendix G) were asked to evaluate the context and content of the

framework; the appropriateness and adequacy of the proposed project stakeholder management process; the context and content of project management knowledge areas and competences; the context and content of the PMIS; and other general comments that may be useful to the framework and research in general. Thus, this was the approach that was found suitable to validate the framework, as it gave the participants time to study the framework, reflect on it and seek for clarification before responding.

3.5 Chapter Summary and Conclusion

The chapter assessed the suitability of different research methods to make a justified decision on the suitable method for the context of the research. The essence of this was to reach informed decision on the suitable approaches to adequately and appropriately achieve the research objectives set in Section 1.2. Also, the requirement of each objective was highlighted and the suitable approach for each identified among other approaches. The chapter explored different types of research methods such as experiments, grounded theory, ethnography, action research, surveys, and case study that are available in the extant literature and body of knowledge and assessed their suitability to this research and context. Consequently, a multiple case study was chosen as the best approach. Also, a thorough and rigorous implementation of the case study method that is informed by major thinkers in the field was undertaken to decide on the case study design for the research. Furthermore, the chapter outlined the other approaches to achieving the objectives of the research. These included literature review and content analysis for the development of the conceptual model for project stakeholder management, multiple sources of evidence such as face-to-face and telephone semi-structured interviews, project documents and observations to gather the research data; the evidence from the literature and body of knowledge using NVivo to analyse the data; and the literature and body of knowledge for the development of the integrated framework for project stakeholder management in Nigeria.

The chapter therefore shows that while the best method for the research is multiple case study approach, the objectives of the research can be achieved by pursuing different strategies. The following chapter presents the development of the conceptual model for project stakeholder management.

Chapter 4 Conceptual Model for Project Stakeholder Management

The chapter presents the synthesis of theoretical issues on project success, project life cycle and project stakeholder management, to show their relationships for the development of conceptual model for the management of project stakeholders. This is based on the methodology specified in Chapter 3, which identified literature review and content analysis of issues in project stakeholder management process. Models and frameworks have been used as tools for linking concepts or theories, to connect aspects of empirical inquiry. These have been useful in management challenges and situations, as recognised by Weick (1989), Whetten (1989), Fellows and Liu (2003), and Fellows and Liu (2008). The following sections detail this synthesis and development of model.

- Section 4.1 synthesises the concept of project success, demonstrating its relationship with project stakeholder management;
- Section 4.2 synthesises the concept of project life cycle, demonstrating its relationship with project success and project stakeholder management;
- Section 4.3 reviews the extant literature on project stakeholder management process;
- Section 4.4 presents the content analysis of project stakeholder management process;
- Section 4.5 presents the conceptual model developed on the bases of Sections 4.1 – 4.4 and issues considered to make the management of project stakeholders more effective; and
- Section 4.6 is the chapter summary which provides the conclusion to the chapter.

4.1 Synthesis of Project Success and Relationship with Project Stakeholder Management

In order to understand the concept of project success, a brief understanding of the concept of project and project management is important. In Section 2.3 for example, several definitions of project are shown, indicating that the suitable definition adopted depends on the industry. Also, it is observed that the different definitions indicate the

different perspectives about a project by different authors. Thus, in the context of this research, project is considered as construction project.

Also, considering the concept of project management as shown in Section 2.4 there is the recurrence of project objectives, project success, project life cycle as they affect project management. This phenomenon indicates that the attention of research and the development of theories and practice in project management over the years have been concerned about the success of projects. This has been further shown to be related to the objectives of the projects and the life cycles of the projects. On the bases of these, the review of reports and literature on public sector projects in Nigeria as shown in Section 2.1 reveal poor achievement of success in the delivery and management of projects. This has been evaluated to be due to, among others, poor stakeholder management as shown in Sections 2.5 and 2.6.

Furthermore, the concepts of project success have been shown to be linked to project objectives and project stakeholder management. This is evident from the consensus among majority of the authors in the extant literature as reviewed in Section 2.7 that, project success across the life cycle of projects is influenced by stakeholders. Consequently, stakeholders have been identified as key to the realisation of project success across project life cycles, thus the need for project stakeholder management.

4.2 Synthesis of Project Life Cycle and Relationship with Project Success and Project Stakeholder Management

As stated in Section 2.4.2, the phases in a project life cycle provide means of progressive delivery of expected outputs. Thus, for evaluation of project success, it is important to consider the life cycle of the project. As a result, the project life cycle is considered important in the development of the conceptual model.

Also, it is argued that project stakeholders, as well as their objectives change across the life cycle of projects. Therefore, it is important that any proposal for project stakeholder management requires the consideration of project life cycle. Furthermore, it has been shown that the objectives and success of the project vary across the life cycle of the project. Thus, it makes sense that any proposal for the management of project

stakeholders considers the project objectives, project success and project life cycle. Thus, for the effective management of project stakeholders, this research proposes a conceptual model for project stakeholder management across project life cycle.

The concept of project life cycle discussed in Section 2.4 shows the existence of several project life cycle phases, depending on the type of project and industry. In the section, apart from Project Management Institute (2000) and Project Management Institute (2004) that view project life cycle as being a subset of product life cycle, majority of the authors have not shown that difference, but view project life cycles as consisting of a number of distinct phases in the life of the project.

Review of several project life cycle phases in Section 2.4.2 by majority of authors (Pinto and Prescott, 1988; Kartam, 1996; Bower, 2002; Muriithi and Crawford, 2003; Somers and Nelson, 2004; Thiry, 2004; Smith and Bower, 2008; Chen-Charlie et al., 2009) show detailed phases. However, a three-phase life cycle model shown in Figure 4.1 below comprising pre-construction, construction and post-construction has been considered and adopted for this research. This is to focus on major points of decisions that have significant effect on the project, which is similar to the designation of three significant phases (project appraisal, project implementation, and operation of the asset) in Bower (2002) and Smith and Bower (2008), showing resources investment and opportunity for influencing project outcome.

The beginning of every phase on the model marks the start of the phase and the end marks the point of major decision into the next phase, which also shows the signpost on the project where major decisions that affect the phase and project are taken. The pre-construction phase refers to the phase comprising activities undertaken from initiation/conception of the project to award of the contract for construction. This phase appraises the needs for the project, the type of the project to satisfy the needs, funds available for the project, and selection of the construction contractor. Construction phase involves activities from the commencement of construction or the construction contractor’s mobilisation to the site to completion of construction/handing-over or commissioning but excluding project operation. The operation of the physical asset, which includes full utilisation of the physical asset, maintenance, and keeping of

records and experience about the project is referred to as the post-construction phase. This is the phase where the benefit (or earning) of the project is realised and measured to the end of the project's life span.

From the review of project life cycle in Section 2.4.2, it is revealed that project life cycle is a collection of generally sequential project phases whose name and number are determined by the control needs of the organisation or organisations involved in the project (Project Management Institute, 2000). Also, it is defined as the path and sequence through the various activities to produce the final product of a project (Central Computer and Telecommunications Agency, 1996). In addition, the project life cycle is the different stages the project passes through in its implementation, with each stage marking the change in nature, complexity and speed of the activities and resources used (Bower, 2002; Smith and Bower, 2008). Furthermore, project life cycle shows the phases linking the beginning and the end of a project, which provide check points for the evaluation of projects, important for monitoring project progress and success (Anbari et al., 2008).

Thus, a simple project life cycle as shown in Figure 4.1 below is adapted for the conceptual model for project stakeholder management for this research. The choice is informed by reasoning to focus on major points of decisions that have significant effect on the project, which is similar to the designation of three significant phases (project appraisal, project implementation, and operation of the asset) in Bower (2002) and Smith and Bower (2008) showing resources investment and opportunity for influencing project outcome. This is a three-phase life cycle model comprising pre-construction, construction and post-construction phases. The beginning of every phase on the model marks the start of the phase and the end marks the point of major decision into the next phase, which also shows the signpost on the project where major decisions that affect the phase and project are taken.

Figure 4.1 Project life cycle model

The pre-construction phase on the model refers to the phase comprising activities undertaken from initiation/conception of the project to award of the contract for construction. This phase appraises the needs for the project, the type of the project to satisfy the needs, funds available for the project, and selection of the contractor. Construction phase involves activities from the commencement of construction or contractor's mobilisation to the site to completion of construction/handing-over or commissioning but excluding project operation. The operation of the asset, which includes full utilisation of the physical asset, maintenance, and keeping of records and experience about the project, is what is referred to as post-construction. This is the phase where the benefit (or earning) of the project is realised and measured to the end of the project's life span.

4.3 Review of Project Stakeholder Management Process

Stakeholder management process is performed to understand the project's stakeholders; to ensure the balance between contribution and reward; for managing the stakeholders; for involving who should determine the project's goals and how success is measured (Karlsen, 2002). Several project stakeholder management process models have been proposed in the literature as shown in Table 4.1. The table shows the composition of the models proposed by Cleland (1986), Cleland (1988), Cleland (1998), Cleland and Ireland (2002), Elias et al. (2002), Karlsen (2002), Preble (2005), Bourne and Walker (2006), Young (2006), Cleland and Ireland (2007), McElroy and Mills (2007), Walker et al. (2008b), Jepsen and Eskerod (2009), Yang et al. (2009), British Standard Institute (2010), Luyet et al. (2012), and Project Management Institute (2013). These show the different processes as viewed by the authors through which project stakeholder can be managed. While some processes run through several steps, others are few, depending on the aim of the process and what it stands to achieve.

Table 4.1 Stakeholder management process models in construction projects

Source(s)	**Stakeholder management processes**
Cleland (1986), Cleland (1988), Cleland (1998), Cleland and Ireland (2002), Cleland and Ireland (2007)	Identification of stakeholders; gathering information on stakeholders; identifying stakeholder mission; determining stakeholder strengths and weaknesses; identifying stakeholder strategy; predicting stakeholder behaviour; implementing stakeholder management strategy.
Elias et al. (2002)	Developing a stakeholder map of the project; preparing a chart of specific stakeholders; identifying the stakes of stakeholders; preparing a power versus stake grid; conducting a process level stakeholder analysis; conducting a transactional level stakeholder analysis; determining the stakeholder management capability of the R&D projects; analysing the dynamics of stakeholder interactions.
Karlsen (2002)	Identification of stakeholders; analysing the characteristics of stakeholders; communicating and sharing information with stakeholders; developing strategies, following up.
Preble (2005)	Stakeholder identification; general nature of stakeholder claims; determine performance gaps; prioritise stakeholder demands; develop organisational responses; monitoring and control.
Bourne and Walker (2006)	Identifying stakeholders; prioritizing stakeholders; developing a stakeholder engagement strategy.
Young (2006)	Identifying stakeholders; gathering information about stakeholders; analysing the influence of stakeholders.
McElroy and Mills (2007)	Identify project success criteria; identify resource requirements; identify stakeholder groups and interest levels; conduct stakeholder analysis; develop strategy for each stakeholder; monitor and review.
Walker et al. (2008b)	Identifying stakeholder; prioritizing stakeholders; visualizing stakeholders; engaging stakeholders; monitoring effectiveness of communication.
Jepsen and Eskerod (2009)	Identification of the (important) stakeholders; characterization of the stakeholders pointing out their (a) needed contributions, (b) expectations concerning rewards for contributions, (c) power in relation to the project; decision about which strategy to use to influence each stakeholder.
Yang et al. (2009)	Stakeholder estimation; information inputs; decision-making; sustainable support.
British Standard Institute (2010)	Identifying stakeholders; planning stakeholder engagement and communications; communicating; monitoring stakeholder engagement.
Luyet et al. (2012)	Stakeholder identification; stakeholder characterisation; stakeholder structuring and degree of involvement; choice of participatory techniques; implementation of participatory techniques; evaluation of stakeholder participation.
Project Management Institute (2013)	Identify stakeholders; plan stakeholder management; manage stakeholder engagement; control stakeholder engagement.

Mapping the stakeholder management process models in Table 4.1 to visualise the distribution of the steps as shown in Table 4.2, thirteen models proposed by fourteen authors can be identified. It is shown that there could be as few as three steps, such as the models by Bourne and Walker (2006) and Young (2006) and as many as eight steps, such as the model by Elias et al. (2002). Although the steps are distributed in different positions and bear different descriptions, analysis of the contents or purposes show some commonality in terms of what they are proposed to achieve. For example, identifying stakeholders which is first step is common to all models except 2 and 3, where steps 1 and 2 combined in both models are similar to identifying stakeholders. Step 3, described as identifying stakeholder mission in model 1 represents steps 4, 5, and 6 in model 3 and steps 3 and 4 in model 4. Also, step 7 described as implementing stakeholder management strategy in model 1 represents steps 7 and 8 in model 2, steps 4, 5, and 6 in model 3, steps 5 and 6 in models 4 and 7, steps 3, 4, and 5 in model 8, steps 2, 3, and 4 in models 11 and 13, and steps 3, 4, 5, and 6 in model 12. These therefore show the uniqueness of the different models. According to Moodley (2002) and Moodley (2008), the process vary in the phases of a project, requiring revision of strategies, and stakeholder management will alter due to changes in stakes in the life of the project.

Table 4.2 Mapping steps in project stakeholder management process models

Models	Source(s)	Steps							
		1	2	3	4	5	6	7	8
1	Cleland (1986), Cleland (1988), Cleland (1998), Cleland and Ireland (2002), Cleland and Ireland (2007)	Identify stakeholders	Gather stakeholders' information	Identify stakeholders' missions	Determine stakeholders' strengths and weaknesses	Identify stakeholder strategy	Predict stakeholder behaviour	Implement stakeholder management strategy	
2	Elias et al. (2002)	Develop a stakeholder map of the project	Prepare a chart of specific stakeholders	Identify the stakes of stakeholders	Prepare a power versus stake grid	Conduct a process level stakeholder analysis	Conduct a transactional level stakeholder analysis	Determine the stakeholder management capability index of the R & D project	Analyse the dynamics of stakeholders
3	Karlsen (2002)	Plan	Identify stakeholders	Analyse the characteristics of stakeholders	Communicate and share information with stakeholders	Develop implementation strategies	Follow-up, monitor and review		
4	Preble (2005)	Identify stakeholders	Determine general nature of stakeholder claims	Determine performance gaps	Prioritise stakeholder demands	Develop organisational responses	Monitor and control		
5	Bourne and Walker (2006)	Identify stakeholders	Prioritise stakeholders	Develop a stakeholder engagement strategy					
6	Young (2006)	Identify stakeholders	Gather stakeholders' information	Analyse the influence of stakeholders					
7	McElroy and Mills (2007)	Identify project success criteria	Identify resource requirements	Identify stakeholder groups and interest levels	Conduct stakeholder analysis	Develop strategy for each stakeholder	Monitor and review		

8	Walker et al. (2008b)	Identify stakeholders	Prioritise stakeholders	Develop a stakeholder engagement strategy	Visualise stakeholders	Monitor effectiveness of communication			
9	Jepsen and Eskerod (2009)	Identify stakeholders	Analyse the characteristics of stakeholders	Characterise stakeholders	Decide the strategy to influence stakeholders				
10	Yang et al. (2009)	Estimate stakeholder	Input information	Make decision	Provide sustainable support				
11	British Standard Institute (2010)	Identify stakeholders	Plan stakeholder engagement and communications	Communicate	Monitor stakeholder engagement				
12	Luyet et al. (2012)	Identify stakeholder	Characterise stakeholder	Structure and involve stakeholder	Choose participatory techniques	Implement participatory techniques	Evaluate stakeholder participation		
13	Project Management Institute (2013)	Identify stakeholders	Plan stakeholder management	Manage stakeholder engagement	Control stakeholder engagement				

4.4 Content Analysis of Project Stakeholder Management Process

The reviews of the project stakeholder management processes in the extant literature as shown in Section 4.3 reveal several models for the management of project stakeholders (see Tables 4.1 and 4.2). To consider a stakeholder management process for the conceptual framework, this thesis subscribes to these existing models. Project stakeholder management includes the processes required to identify the people, groups, or organisations that could impact or be impacted by the project, to analyse stakeholder expectations and their impact on the project, and to develop appropriate management strategies for effectively engaging stakeholders in project decisions and execution (Project Management Institute, 2013). As observed in Tables 4.1 and 4.2, the analyses of the models show similarities in them. Therefore, to decide on the suitable model, similarities, relevance, and comprehensiveness of steps/models among the existing models were key criteria considered. Table 4.3 shows the analysis of the steps in the models (as designated in Table 4.2) to justify the choice of model 1 by Cleland (1986) as the stakeholder management process model adopted for the conceptual framework. Model 1 as shown in the table is the model by Cleland (1986), while other models are also as designated in Table 4.2. The steps shown in the other models under the steps in model 1 indicate the corresponding common steps in the other models compared to model 1. Further to the explanation in Section 4.3, Table 4.3 maps out the areas of commonality among the models. Model 1 in the table which is the adopted model embodies the other models. It is easy and simple to understand and contains the steps in the other models. Furthermore, it is comprehensive, with distinct and deliverables steps which gives it the potential to clarify what the composites are. Thus, it has simpler steps that are clearer in terms of what would be required to ensure effective stakeholder management process. Consequently, the adopted model consists of identification of stakeholders, gathering of stakeholders' information, identification of stakeholders' missions, determination of stakeholders' strengths and weaknesses, identification of stakeholders' strategies, prediction of stakeholders' behaviours and implementation of stakeholders' management strategies.

Table 4.3 Project stakeholder management process model for conceptual model

Models	**Generic Model (Cleland, 1986)**						
	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7
	Steps in Model						
1	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7
2	Steps 1, 2	Step 3	Steps 4, 5, 6				Steps 7, 8
3	Steps 1, 2		Step 3				Steps 4, 5, 6
4	Step 1	Step 2	Steps 3, 4				Steps 5, 6
5	Step 1	Step 2					Step 3
6	Step 1	Step 2		Step 3			
7	Step 3	Steps 3, 4					Steps 5, 6
8	Step 1		Step 2				Steps 3, 4, 5
9	Step 1	Step 2	Step 3				Step 4
10	Step 1	Steps 2				Step 3	Steps 4
11	Step 1						Steps 2, 3, 4
12	Step 1	Step 2					Steps 3, 4, 5, 6
13	Step 1						Steps 2, 3, 4

Consequently, from Table 4.3 above and the explanation above, the project stakeholder management process model adopted for the conceptual framework as shown in Figure 4.2 is obtained. It shows the processes in the project stakeholder process across the project life cycle phases. This model is considered as lens for investigating the practice of project stakeholder management in the case studies.

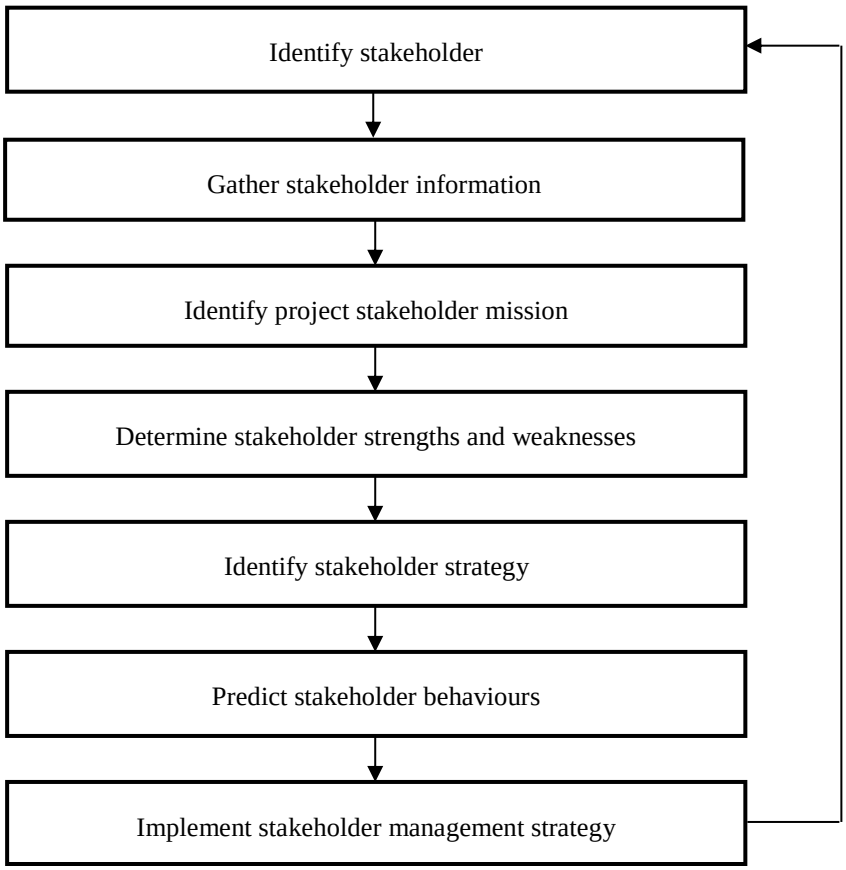

Figure 4.2 Generic project stakeholder management process model in conceptual model
Source: Adopted from Cleland (1986), Cleland (1988), Cleland (1998), Cleland and Ireland (2002), and Cleland and Ireland (2007)

To increase the understanding of the project stakeholder management process and to make the process effective, it is important to consider the input/output elements in the process, akin to chemical process. However, unlike in chemical process, stakeholder management process involves people, therefore the need to consider the participants in the stakeholder management processes. Also important, is to ensure that right participants who have the required experience, knowledge/understanding of the concept

of participation, the project and skills are involved, thus, the relevance of qualification of participants in stakeholder management. In addition, it is important in a process to specify the techniques through which the process will go through to achieve outcomes, thus, specifying the techniques of stakeholder management. Furthermore, a process is completed when outcomes are achieved or shown, thus, the importance of outputs of the stakeholder management process. These form the inputs/outputs elements to the process and are considered important to make the project stakeholder management process systematic, effective and practical for the management of project stakeholders.

According to Luyet et al. (2012), there has been recent increased interest in participation in projects. Evidence of this is supported by Reed (2008), Abelson et al. (2007), Chambers (1994), Buttoud and Yunusova (2002), Buchy and Hoverman (2000), and Buchecker et al. (2003). Participation as defined by the World Bank (1996) is a process of involving stakeholders in projects due to their influence and share control over development initiatives and the decision and resources which affect them. The purpose of participation is to enhance the quality of project (Luyet et al., 2012), which could be defined in different ways depending on the project context (Rowe and Frewer, 2000).

Participation has been identified to be of advantage to projects and organisations. These include better trust in decision (Richards et al., 2004), improvement of project design using local knowledge (Irvin and Stansbury, 2004), better understanding of projects and issues (Duram and Brown, 1999), integration of various interests and opinions (Creighton, 1986; Griffin, 1999), optimising implementation of plans and project (Konisky and Beierle, 2001; Irvin and Stansbury, 2004), public acceptance of decisions (Junker et al., 2007; Reed, 2008), fostering and developing social learning (Blackstock et al., 2007; Junker et al., 2007). However, there are also risks associated with participation. These include: expensive process (Vroom, 2000; Lawrence and Deangen, 2001; Mostert, 2003), time consuming process (Vroom, 2000; Luyet, 2005), potential stakeholder frustration (Irvin and Stansbury, 2004; Reed, 2008), identification of new conflicts (Cooke and Kothari, 2001; Kangas and Store, 2003), involvement of stakeholders who are not representative (Junker et al., 2007; Reed, 2008), and empowerment of an already important stakeholder (Buttoud and Yunusova, 2002).

There is a need to make the participatory process more systematic (Creighton, 2005; Song et al., 2011). According to Rowe and Frewer (2005) participation has been recognised by governments, practitioners, regulators, and academics all over the world. There are underlying principles for effective participation such as commitment and culture, support and structure, diversity and representation, handing over control, learning from experience, and real results (Audit Commission, 2002). Also, the Department of Energy (1999) stresses the importance of clearly defining the expectations, involving the interested stakeholders in every step of a decision and allowing the participants to influence the decision. Ng et al. (2012) and *Guidelines for Public Participation* by the Department of Justice (2009) recognise mutual trust and respect between decision makers and participants as the core of participation process. However, it is necessary to ensure that participants involved, represent those who can influence the project process and/or final results, whose living environment is positively or negatively affected by the project, and who directly and indirectly benefit and/or lose from it (El-Gohary et al., 2006; Deegan and Parkin, 2011; Song et al., 2011).

Also, for a process, it is important to determine the capabilities of participants, an idea shared by Levy (2010) and referred to as qualification. This helps the client to become familiar with the team to work with to manage the project's resources. Determining qualification requires basic business information about participants, qualification for the project, the types of services provided, list of references, and information about the team to work with. In addition, in the project stakeholder management process, it equally important to understand the techniques of the process, which specifies the appropriate approach to the project stakeholder management process. Furthermore, as a measure of the process, it is necessary to determine the outputs of the project stakeholder management process in terms of the expected and obtained outputs. Consequently, understanding of the participants in the stakeholder management processes; qualification of participants in stakeholder management; techniques of stakeholder management; and outputs of the stakeholder management process can increase the better understanding of the project stakeholder management process for effective project stakeholder management to contribute to facilitating project success.

As earlier observed in Section 2.6, a research problem functions in combination with researcher's goals to justify a study and show that the research is important. Also, the problem may be something that is not fully understood, or dealing with it is not adequately known; therefore more information may be required about it. Furthermore, not every study will have an explicit statement of a research problem, but every good research design contains an implicit or explicit identification of some issue or problem, intellectual or practical, about which information is needed – the justification of where the researcher's goals come into play (Maxwell, 2013). Therefore, considering the adopted model in Figure 4.2, it was considered important to review and analyse the processes in the project stakeholder management process to have a better understanding of the process and for effectiveness. As such, each step of the project stakeholder management process in the model was reviewed and analysed. This is shown in Table 4.4, to understand the significance given to the participants in the stakeholder management processes; qualification of participants in stakeholder management; techniques of stakeholder management; and outputs of the stakeholder management process; which are considered important for effective project stakeholder management process. The review and analysis as shown in table indicate that, it is only the outputs followed by the techniques to the processes that have been given attention in the literature about the stakeholder management process, with little or no attention paid to the participants involved in the processes. The most ignored among the issues is the qualifications of participants, which is also considered important for capable and effective management of stakeholders. Also, it is shown that although the techniques of the process are suggested in most of the processes, no suggestions have been made in few. As a result, these could be viewed as being more theoretical and could affect the practical application of the stakeholder management process in the model. Consequently, for understanding of the stakeholder management process and effective practical application, the consideration of the participants and their qualifications, as well as the techniques and outputs of the stakeholder management process are required. Thus, the integration of these issues in the stakeholder management process could enhance the effectiveness of the process.

Table 4.4 Review and analyses of issues in project stakeholder management process

Step	Description	Source(s)	Participant(s)	Qualification(s)	Technique(s)	Output(s)
1	Identify stakeholder	Cleland (1986), Cleland (1988), Cleland (1998), Cleland and Ireland (2002), and Cleland and Ireland (2007)	-	-	-	Internal and external, primary (project owner, suppliers, functional groups, investors, communities and institutions) and secondary (media and special interest groups), supportive, legal contractual relationship to project, influence or affect, or influenced or affected by project
2	Gather stakeholder information	Cleland (1986), Cleland (1988), Cleland (1998), Cleland and Ireland (2002), and Cleland and Ireland (2007)	-	-	Highest standard of ethical conduct	-
3	Identify stakeholder mission	Cleland (1986), Cleland (1988), Cleland (1998), Cleland and Ireland (2002), and Cleland and Ireland (2007)	-	-	-	Mission or stake (supportive or adverse to project) for external stakeholders
4	Determine stakeholder strengths and weaknesses	Cleland (1986), Cleland (1988), Cleland (1998), Cleland and Ireland (2002), and Cleland and Ireland (2007)	-	-	Assessment or evaluation	Stakeholder's mission; strength based on availability and effective use of resources, political alliance, public support, quality of strategies, dedication of members; weaknesses from lack of political support, disorganisation, lack of coherent strategy, uncommitted, scattered membership, unproductive use of resources
5	Identify stakeholder strategy	Cleland (1986), Cleland (1988), Cleland (1998), Cleland and Ireland (2002), and Cleland and Ireland (2007)	-	-	-	Chain that provides means and sets direction for fulfilling goals, objectives, mission of stakeholders; resource allocations required (plans for using resources, policies, procedures to be employed, tactics used to accomplish stakeholder's end purposes); why, when, and where required; how to be used

Step	Description	Source(s)	Participant(s)	Qualification(s)	Technique(s)	Output(s)
6	Predict stakeholder behaviours	Cleland (1986), Cleland (1988), Cleland (1998), Cleland and Ireland (2002), and Cleland and Ireland (2007)	Project team	-	Stakeholder project impact assessment process	Understanding of external stakeholder strategy; resources to affect project, picketing construction site or use of courts to delay or stop project, petition to stop further construction, influencing future legislation
7	Implement stakeholder management strategy	Cleland (1986), Cleland (1988), Cleland (1998), Cleland and Ireland (2002), and Cleland and Ireland (2007)	Project team	-	Organisational policy to stipulate active management of stakeholders; additional policies, action plans, procedures, and allocation of supporting resources	Potential impact of stakeholders on project outcome, management of project review meetings, maintenance of contact, evaluation of probable stakeholder response to major project decisions, on-going, up-to-date report on stakeholder status, suitable security system for protection of sensitive project information

4.5 The Conceptual Framework

A conceptual framework of a study is described as the system of concepts, assumptions, expectations, beliefs, and theories that supports and informs a research (Miles and Huberman, 1994). Jabareen (2009) describes conceptual frameworks as products of qualitative process of theorisation. According to Miles and Huberman (1994), a conceptual framework can be defined as a visual or written product, that explains in either graphical or narrative form, the main things to be studied, which may include the key factors, concepts, or variables; and the presumed relationships among them. Jabareen (2009) defines it as a network, or "a plane", of interlinked concepts that together provide a comprehensive understanding of a phenomenon or phenomena.

It is most important to understand that a conceptual framework is primarily a conception or model of what is out there that is planned to be studied, and of what is going on with these things and why – a tentative theory of the phenomena that is being investigated (Maxwell, 2013). Also, Jabareen (2009) observes that the concepts that constitute a conceptual framework support one another, articulate their respective phenomena, and establish a framework-specific philosophy.

In the development of a conceptual framework, Maxwell (2013) discourages the use of only reviews and summaries of some body of theoretical or empirical publications. However, in addition, these should be complemented with ideas from the researcher's experience, speculative thinking, and any pilot and exploratory research undertaken. Also, to bring in ideas from outside the traditionally defined field of the study, or integrate different approaches, lines of investigation, or theories that no one had previously connected. Furthermore, it is advisable to, apart from being descriptive, but also critical; to understand what problems there have been with previous research and theory, what contradictions or holes have been found in existing views, and how the study can make an original contribution to existing understanding.

Consequent upon the above reasons and arguments from the literature, the conceptual framework for the project stakeholder management as shown in Figure 4.3 is developed. It shows the network of three-phase project life cycle adapted and the adopted project stakeholder management process model in Figure 4.2, including the proposed issues

considered for better understanding of the process. These constitute the features of the conceptual framework. The conceptual framework required for each project at every phase of the project life cycle, the participants and their qualification, as well as the techniques and outputs in the process are determined. Although the model is identical for all the three phases, in practice, when a single project is assessed across the life cycle, the participants and their qualification, as well as the techniques and outputs in the process are reviewed and updated at the construction and post-construction phases.

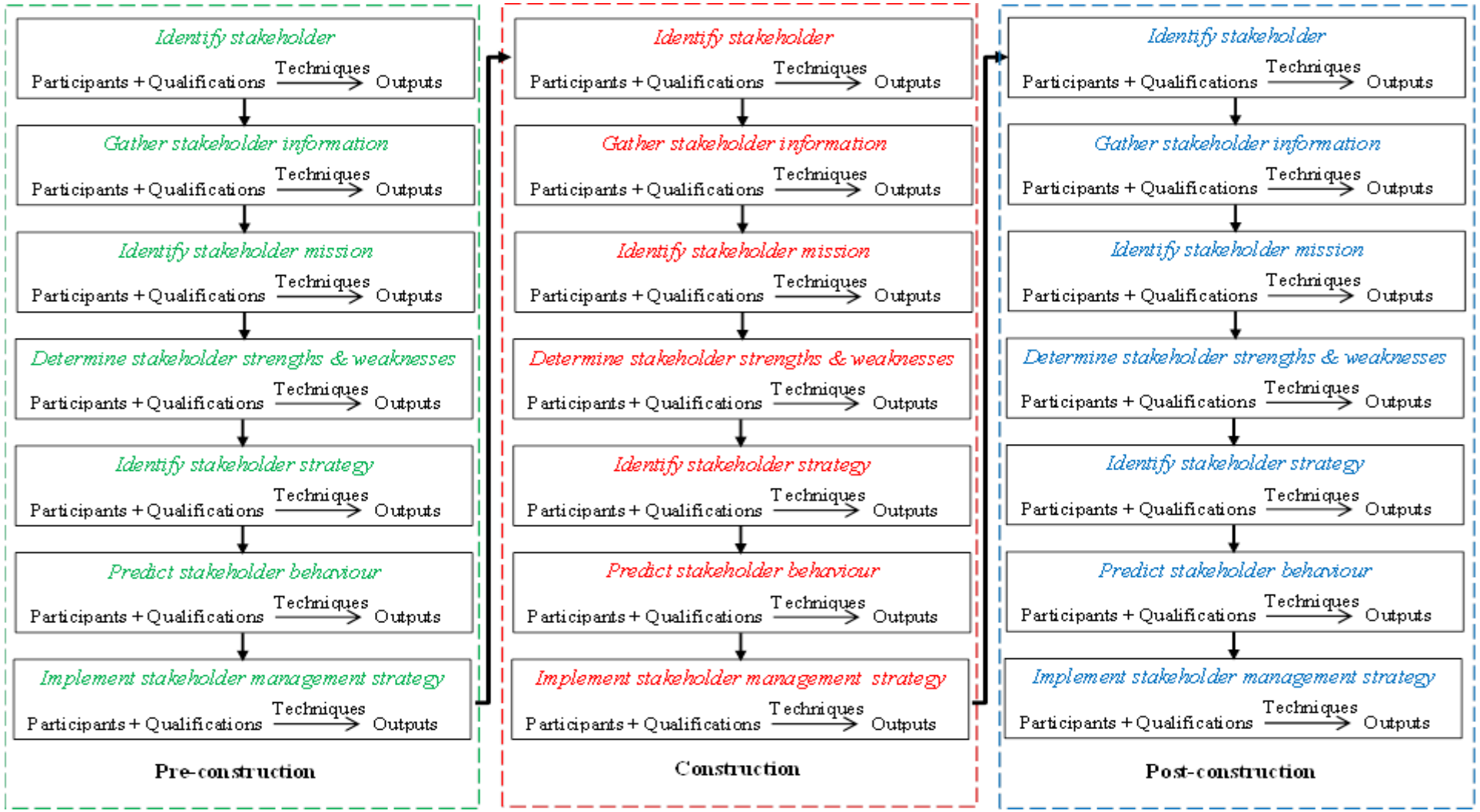

Figure 4.3 Project stakeholder management conceptual model

4.6 Chapter Summary and Conclusion

The chapter has demonstrated the development of the conceptual framework for project stakeholder management. The conceptual framework was developed to serve as lens to investigate the practice of project stakeholder management in the research case studies. The development of the framework considered the critical review of project stakeholder management process models from the extant literature and body of knowledge. In addition, it undertook the critical content analysis of the issues in the adopted project stakeholder management process model considered to increase the understanding of the stakeholder management process, as well as make it effective. These issues include the participants and their qualifications in the stakeholder management process, as well as the techniques and outputs of the stakeholder management process. Also, a review of the relevance of project life cycle phases to the measurement of project success and involvement of project stakeholders in projects and project success, as well as the significance of the phases was undertaken. Consequently, a generic conceptual framework that consists of a seven-step project stakeholder management process considering participants and their qualifications in the stakeholder management process and the techniques and outputs of the stakeholder management process across a three-phase project life cycle was developed.

It is therefore shown that at this point, it was important to develop a generic conceptual framework that is theoretically robust and therefore not only specific to the context of Nigerian public sector project management. This was because as argued and observed, the research problem was more implicit than explicit and therefore more information was required. As such the framework developed could be applied to any construction project in any sector, to investigate the practice of project stakeholder management. Also, as shown, any organisation could apply the framework to contribute to the effective management of its project stakeholders. The following chapter presents the empirical data gathered using the conceptual framework and other preliminary interview questions on the practice of project and stakeholder management in the selected case studies.

Chapter 5 Case Studies Empirical Data on Project and Stakeholder Management

The chapter presents the data from the empirical studies, which includes the primary data gathered and evidence of accuracy/reliability of the data. These data are obtained based on research methodology in Chapter 3 and conceptual model in Chapter 4. In all 17 semi-structured face-to-face interviews and telephone interviews with 15 participants from 4 project management units of 4 universities, observations, and project documents form the empirical data. The chapter is detailed as in the following sections:

- Section 5.1 describes the case study organisations, research participants, projects and funding;
- Section 5.2 presents and demonstrates the accuracy/reliability of the data; and
- Section 5.3 is the chapter summary which provides the conclusion to the chapter.

5.1 Case Study Organisations, Research Participants, Projects and Funding

In order to gather the empirical data to understand the practice of project stakeholder management in public sector projects in Nigeria for this research, a multiple case study approach was employed. The data presented in this chapter represent the qualitative interviews, observations, and project documents gathered from four cases. The four cases involved four project management units of four federal public universities.

According to the website of one of the case studies, the project management unit of the university is established to engage qualified professionals in the fields of Engineering, Architecture, Surveying, Planning, and Estate Management to manage university projects. This is uniform for all other federal public universities, for consistent management by the National Universities Commission (NUC), the body established to supervise and regulate university education in Nigeria.

The duties of the project management unit according to the website include:

- Development of a master plan for the physical development of the University;
- Design and supervision of implementation of all physical development projects;
- Preparation and analysis of Tender documents;

- Coordination of physical development to ensure equity;
- Liaison with the NUC and the Tertiary Education Trust Fund (TETFund) on behalf of the University in respect of capital funds allocation and utilization;
- Periodic advice to the Department of Works and Maintenance on issues of major maintenance and rehabilitation.

Projects managed by the Physical Planning/Facilities units in the university include lecture classrooms and theatres, studios, laboratories, offices, students' hostels, staff quarters, roads, water supply, and recreation. The details of each of the units in the respective universities (or cases) are discussed in the sections below.

5.1.1 Case study A

This case study was the Physical Facilities Directorate (the project management unit) of a university, with an annual average cost of maintenance of existing buildings and other infrastructures estimated at thirty-nine million naira (N39m) or £156,000.00 (at N250.00 for £1.00). For new capital projects, the annual budget is estimated at an average of five hundred and thirty million naira (N530m) or £2.12m. Sources of funding for these projects include capital from budgetary allocation of the Federal Government to the university; TETFund, an agency of the Federal Government intervening in the funding of tertiary education in Nigeria; and Internally Generated Revenue (IGR), from funds generated internally within the university. These are the regular sources of project funding in the university. However, other sources of project funding which are not regular include from philanthropists, alumni, and corporate organisations, which were not captured in this study, because these projects are not proposed and executed regularly.

Although it was initially proposed to interview at least nine participants (to ensure broad and deep understanding of the research issues); three for projects at each of pre-construction, construction and post-construction phases, only five participants were interviewed from this case study, due to insufficient willing participants and project management team members. The participants are coded as part of requirement stated in Section 3.4.2.7.4.6. The participants included Inv-BD-DDR-180612-A, who was interviewed on a three-storey building at post-construction phase (designated Case

Study A Project I in Table 5.1); Inv-KM-PAR-240512-A who was interviewed on a new three-storey building at construction phase (designated Case Study A Project II in Table 5.2); Inv-PB-CAR-280512-A who was interviewed on a faculty complex at pre-construction phase (designated Case Study A Project III in Table 5.3); Inv-PY-DDR-140612-A who was interviewed on a sports complex at pre-construction phase (designated Case Study A Project IV in Table 5.4); and Inv-TA-SAR-280512-A who was interviewed on an academic building at construction phase (designated Case Study A Project V in Table 5.5).

The three-storey building at post-construction phase referred to above was a building initially designed to be the main library of the university, but due to lack of adequate space, it was redesigned, completed and temporarily converted to accommodate two faculties and part of the main library. The second project, a three-storey building at construction phase was an office accommodation for the management staff of the university and their support staff. These management staff include the Vice-Chancellor (VC) and support staff, the two Deputy Vice-Chancellors (DVCs) (Academic and Administrative) and their support staff; the Registrar's office and the Registry Department staff; the Bursar's office and the Bursary Department staff; the University Librarian's office and support staff. The third project, a proposed new Faculty of Agriculture complex at pre-construction phase was at conception/appraisal/design stage. The fourth project, an indoor theatre sports complex project was at the pre-construction phase, and at conception/appraisal/design stage. The fifth project was a Centre for Theatre, Film and Communication Arts at the construction phase. Tables 5.1 – 5.5 outline the main features of the projects (the unit of analysis of the study) in the Case Study A.

Table 5.1 Data/Information of Case Study A Project I

Features/Items	Source(s) of data/information	Description
Type and size	Interview/observation	3-storey building (Library Complex) with major part housing two faculties
Funding/Sponsor	Interview	Federal budget
Main works	Interview/observation/progress reports	In-use, construction of walkway, remedial work on doors, windows, burglar proof, painting and screeding, under regular maintenance
Project phase	Interview/observation/progress reports	Post-construction
Progress report	2 progress reports from participant	Work involved, local purchase order (LPO) raised for walkway, cash advance requested for remedial work, release of cash advance (status), endorsement of LPO (outstanding task), PV (payment voucher) for cash advance in cash office (special constraint)
Press release/Newsletters	-	-
Minutes of project meeting	1 minutes of Directorate's management meeting from participant	Attended by the Director, Heads of Units of Lands & Property Admin, Engineering Services, Planning & Design, Building Maintenance, Admin Officer; report showing release of PV, approval LPO, materials delivered to site, work commenced
Selected presentations	-	-
Literature in public domain	-	-
Costs (Initial)	-	-
Cost (Final)	-	-
Duration (Initial)	-	-
Duration (Final)	-	-

Table 5.2 Data/Information of Case Study A Project II

Features/Items	Source(s) of data/information	Description
Type and size	Interview/observation	3-storey building (University Administration/Management Office Complex)
Funding/Sponsor	Interview	Federal budget/TETFund
Main works	Interview/observation/minutes of meetings and progress reports from participant	Construction of 3-storey building to house the University Administration/Management (VC, DVCs, Registrar, Bursar) and support staff
Project phase	Interview/observation/progress reports	Construction
Progress report	5 progress reports from participant	Progress reports from contractor to consultant Project Manager and Director of Physical Facilities showing progress of items of work (%), plant and materials on site (number, quantity)
Press release/Newsletters	-	-
Minutes of project meeting	5 minutes of meeting from participant	Attended by the representatives of the Directorate of Physical Planning, contractor, consultants; showing contract sum (N914,915,531.76) or £3,659,662.13, contract duration (92 weeks), commencement of contract date (19/05/2009), completion of contract date (22/02/2011), time spent on contract to date of meeting
Selected presentations	-	-
Literature in public domain	-	-
Costs (Initial)	Progress reports/minutes of meetings	N914,915,531.76 or £3,659,662.13
Cost (Current)	-	-
Duration (Initial)	Progress reports/minutes of meetings	92 weeks (19/05/2009 - 22/02/2011)
Duration (Current)	-	-

Table 5.3 Data/Information of Case Study A Project III

Features/Items	Source(s) of data/information	Description
Type and size	Interview	Proposed Faculty of Agriculture complex
Funding/Sponsor	Interview	State government/TETFund/NUC
Main works	Interview	Preliminary plans, designs, detailed designs, bill of quantities for approval by client and funders/sponsors
Project phase	Interview	Pre-construction
Progress report	Interview/1 progress report from Directorate's management meeting from participant	Preliminary bill of quantities based on sketch drawings for sourcing funding, bill of quantities based on sketch drawings submitted to university management, Planning & Design working on detailed drawings
Press release/Newsletters	-	-
Minutes of project meeting	1 minutes of Directorate's management meeting from participant	Attended by the Director, Heads of Units of Lands & Property Admin, Engineering Services, Planning & Design, Building Maintenance, Admin Officer; report showing preliminary bill of quantities based on sketch drawings for sourcing funding, bill of quantities based on sketch drawings submitted to university management, Planning & Design working on detailed drawings
Selected presentations	-	-
Literature in public domain	-	-
Costs (Initial)	Interview	About N1,100,000,000.00 or £4,400,000.00
Cost (Current)	-	-
Duration (Initial)	Interview	About 60 – 65 weeks
Duration (Current)	-	-

Table 5.4 Data/Information of Case Study A Project IV

Features/Items	Source(s) of data/information	Description
Type and size	Interview	Indoor Sports Theatre complex
Funding/Sponsor	Interview	Federal budget/TETFund
Main works	Interview	Preliminary plans, designs, bill of quantities for approval and award of contract
Project phase	Interview	Pre-construction
Progress report	Interview/1 progress report from Directorate's management meeting from participant	Completed architectural designs, other engineering designs in progress, bill of quantities based on sketch drawings submitted to university management, Planning & Design working on detailed drawings
Press release/Newsletters	-	-
Minutes of project meeting	1 minutes of Directorate's management meeting from participant	Attended by the Director, Heads of Units of Lands & Property Admin, Engineering Services, Planning & Design, Building Maintenance, Admin Officer; report showing completed architectural designs, other engineering designs in progress, bill of quantities based on sketch drawings submitted to university management, Planning & Design working on detailed drawings
Selected presentations	-	-
Literature in public domain	-	-
Costs (Initial)	-	-
Cost (Current)	-	-
Duration (Initial)	-	-
Duration (Current)	-	-

Table 5.5 Data/Information of Case Study A Project V

Features/Items	Source(s) of data/information	Description
Type and size	Interview/observation	Centre for Theatre, Film and Communication Arts lecture theatre
Funding/Sponsor	Interview	Federal budget/TETFund
Main works	Interview/observation/report from Directorate's management meeting from participant	Construction of the Centre for Theatre, Film and Communication Arts
Project phase	Interview/observation/ report from Directorate's management meeting from participant	Construction
Progress report	Interview/1 progress report from Directorate's management meeting from participant	Start of project delayed, site condition different from what is specified
Press release/Newsletters	-	-
Minutes of project meeting	1 minutes of Directorate's management meeting from participant	Attended by the Director, Heads of Units of Lands & Property Admin, Engineering Services, Planning & Design, Building Maintenance, Admin Officer; report showing contract awarded but work not earnestly commenced
Selected presentations	-	-
Literature in public domain	-	-
Costs (Initial)	-	-
Cost (Current)	-	-
Duration (Initial)	-	-
Duration (Current)	-	-

Further details of data from the case are shown in Appendix D Tables D1 (on experience of participants); D5 (on understanding of the concepts of project and stakeholder management); D9 (on understanding of the objectives of the case study project); D13 (on understanding of the criteria for measuring the case study project's success); D17 (on understanding of the cost of the case study project); D21 (on understanding of the duration of the case study project); D25 (on understanding of the key specifications of the case study project); D29 (on understanding of the quality of the case study project); D33 (on understanding of the performance on/of the case study project); and D37 (on understanding of the stakeholder satisfaction on the case study project). Others include D41 (on understanding of the process/steps for the management of project stakeholders on the case study project); D45 (on understanding of the participants in the stakeholder management processes for the case study project); D49 (on understanding of the qualifications of the participants in the stakeholder management processes for the case study project); D53 (on understanding of the

techniques of stakeholder management for the case study project); and D57 (on understanding of the outputs of the stakeholder management processes for the case study project).

5.1.2 Case study B

This case study was the Physical Planning Department of a university, which has an annual average budget for maintenance of existing buildings and other infrastructures, as well as new capital projects estimated at between three hundred and thirty million naira (N330m) or £1.32m and four hundred and sixty million naira (N460m) or £1.84m. This budget covers on-going projects and maintenance of existing projects. Like in the above case study, the sources of funding include capital from budgetary allocation from the Federal Government budget, TETFund, and IGR. Also, other sources include from philanthropists, alumni, and corporate organisations, which were not captured in this study, because of the irregularity.

Similarly as in the above case study, although it was initially proposed to interview at least nine participants (to ensure wide and deep understanding of the research issues); three for projects at each of pre-construction, construction and post-construction phases, only four participants were interviewed from this case study, due to insufficient willing participants and project management team members. The participants are coded as part of requirement stated in Section 3.4.2.7.4.6. The participants included Inv-GA-SQS-300512-B who was interviewed on a new proposed university auditorium (designated Case Study B Project I in Table 5.6); Inv-IB-ADR-300512-B, who was interviewed on an eight-storey building at post-construction (designated Case Study B Project II in Table 5.7); Inv-MA-PTO-310512-B who was interviewed on lecture theatre building at construction phase (designated Case Study B Project III in Table 5.8); and Inv-WA-ARC-010612-B who was interviewed on a lecture theatre and moot court building at construction phase (designated Case Study B Project IV in Table 5.9).

The four projects mentioned above included, an eight-storey building at post-construction phase was an accommodation for the central administration of the university, called the Senate building. The second project is a 1000-seater university theatre/auditorium building at construction phase. The third project, at construction

phase was an 800-seater lecture theatre funded to provide more space for lectures because of the need for lecture theatres. The fourth project was a lecture theatre/moot court to accommodate 600 people was at construction phase. Tables 5.6 – 5.9 outline the main features of the projects (the unit of analysis of the study) in the Case Study B.

Table 5.6 Data/Information of Case Study B Project I

Features/Items	Source(s) of data/information	Description
Type and size	Interview	1000 capacity multi-purpose hall
Funding/Sponsor	Interview	TETFund
Main works	Interview	Construction of 1000 capacity multi-purpose hall
Project phase	Interview	Pre-construction
Progress report	Interview	All contract drawings completed, and project awaiting award
Press release/Newsletters	-	-
Minutes of project meeting	-	-
Selected presentations	-	-
Literature in public domain	-	-
Costs (Initial)	Interview	About N700,000,000.00 or £2,800,000.00
Cost (Current)	-	-
Duration (Initial)	Interview	Not less than 52 weeks
Duration (Current)	-	-

Table 5.7 Data/Information of Case Study B Project II

Features/Items	Source(s) of data/information	Description
Type and size	Interview/observation	8-storey Senate building accommodating the central administration of the university
Funding/Sponsor	Interview	Federal budget
Main works	Interview/observation	Maintenance of the Senate building
Project phase	Interview/observation	Post-construction
Progress report	Interview	Contract completed according to specifications but some problem of leakage not solved
Press release/Newsletters	-	-
Minutes of project meeting	-	-
Selected presentations	-	-
Literature in public domain	-	-
Costs (Initial)	Interview	Over N34,000,000.00 or £136,000.00
Cost (Final)	-	-
Duration (Initial)	-	-
Duration (Final)	-	-

Table 5.8 Data/Information of Case Study B Project III

Features/Items	Source(s) of data/information	Description
Type and size	Interview/letter of award of contract/letter of acceptance/minutes of meeting/progress report from participant	New lecture theatre for Faculty of Engineering
Funding/Sponsor	Interview	TETFund
Main works	Interview/letter of award of contract /minutes of meeting/progress report from participant	Construction of new lecture theatre for Faculty of Engineering
Project phase	Interview/letter of award of contract /minutes of meeting/progress report from participant	Construction
Progress report	Interview/1 minutes of meeting/2 progress reports from participant	Progress reports from contractor to consultants Project Managers and client showing progress of items of work (%), plant and materials on site (number, quantity), pictures of site work
Press release/Newsletters	-	-
Minutes of project meeting	1 minutes of meeting from participant	Meeting attended by client's representatives, contractor, consultants Project Managers
Selected presentations	-	-
Literature in public domain	-	-
Costs (Initial)	Letter of award of contract/letter of acceptance	Over N132,842,771.01 or £531,371.08
Cost (Final)	-	-
Duration (Initial)	Letter of award of contract/letter of acceptance	24 weeks
Duration (Final)	-	-

Table 5.9 Data/Information of Case Study B Project IV

Features/Items	Source(s) of data/information	Description
Type and size	Interview/list of projects/letter of site handing-over to contractor/minutes of stakeholders meeting/letter of contractor's bank account to Project Manager and Acting Director of client's project management from participant	500-seat Faculty of Law lecture theatre and moot court
Funding/Sponsor	Interview	TETFund
Main works	Interview/letter of award of contract /minutes of meeting/progress report from participant	Construction of Faculty of Law lecture theatre and moot court and furnishing
Project phase	Interview/letter of award of contract /minutes of meeting/progress report from participant	Construction
Progress report	Interview/4 minutes of meetings containing 5 progress reports from participant	Progress reports from contractor to consultants Project Managers and client showing progress of items of work (%), plant and materials on site (number, quantity), issues/problems on site
Press release/Newsletters	-	-
Minutes of project meeting	4 minutes of meetings from participant	Meeting attended by client's representatives, contractor, consultants Project Managers
Selected presentations	-	-
Literature in public domain	-	-
Costs (Initial)	List of projects/progress report	Over N204,203,401.50 or £816,813.61
Cost (Final)	-	-
Duration (Initial)	List of projects/progress report	48 weeks (27/07/2011 - 27/06/2012)
Duration (Final)	-	-

Further details of data from the case are shown in Appendix D Tables D2 (on experience of participants); D6 (on understanding of the concepts of project and stakeholder management); D10 (on understanding of the objectives of the case study project); D14 (on understanding of the criteria for measuring the case study project's success); D18 (on understanding of the cost of the case study project); D22 (on understanding of the duration of the case study project); D26 (on understanding of the key specifications of the case study project); D30 (on understanding of the quality of the case study project); D34 (on understanding of the performance on/of the case study project); and D38 (on understanding of the stakeholder satisfaction on the case study

project). Others include D42 (on understanding of the process/steps for the management of project stakeholders on the case study project); D46 (on understanding of the participants in the stakeholder management processes for the case study project); D50 (on understanding of the qualifications of the participants in the stakeholder management processes for the case study project); D54 (on understanding of the techniques of stakeholder management for the case study project); and D58 (on understanding of the outputs of the stakeholder management processes for the case study project).

5.1.3 Case study C

This case study was the Physical Planning and Development Unit of a university. The annual average estimated cost of these projects was put at sixty-nine million, four hundred and thirty-two thousand naira (N69.432m) or £277,728.00 for maintenance of existing buildings and infrastructures and eight hundred million naira (N800m) or £3.2m for new capital projects. The sources of funding for these projects include capital from budgetary allocation from the Federal Government budget, TETFund, IGR. These are regular sources of project funding in the university. However, other sources, which are not regular include from philanthropists, alumni, and corporate organisations, which were not captured in this study, because of the irregularity.

Similarly as in the above case study, although it was initially proposed to interview at least nine participants (to ensure wide and deep understanding of the research issues); three for projects at each of pre-construction, construction and post-construction phases, only five participants were interviewed from this case study, due to insufficient willing participants and project management team members. The participants are coded as part of requirement stated in Section 3.4.2.7.4.6. The participants included Inv-AM-SQS-040612-C who was interviewed on a two-storey building at post-construction phase (designated Case Study C Project I in Table 5.10); Inv-IM-DDR-060612-C who was interviewed on a two-storey building at post-construction phase (designated Case Study C Project II in Table 5.11); Inv-MS-QSI-060612-C who was interviewed on a central classroom building project at pre-construction phase (designated Case Study C Project III in Table 5.12); Inv-RS-ARC-050612-C who was interviewed on an electronic testing centre at pre-construction phase (designated Case Study C Project IV in Table 5.13);

and Inv-SA-CEN-060612-C who was interviewed on a two-storey building project at construction phase (designated Case Study C Project V in Table 5.14).

The five projects mentioned above included, a two-storey classrooms and staff offices building at post-construction phase provided due to the increasing population of students. The second project, a School complex building was also at post-construction phase. The third project, at pre-construction phase was a 3No 200-seater classrooms awaiting award to the contractor. The fourth project, at pre-construction phase was a 500-seater Electronic Testing Centre to serve as a comfortable examination centre. The fifth project at construction phase was a building to serve a new Cyber Security Department in School of Information and Communication Technology. Tables 5.10 – 5.14 outline the main features of the projects (the unit of analysis of the study) in the Case Study C.

Table 5.10 Data/Information of Case Study C Project I

Features/Items	**Source(s) of data/information**	**Description**
Type and size	Interview/work progress report for contract/report of damage due to windstorm from participant	School of Environmental Technology building (SET II)
Funding/Sponsor	Interview	Federal budget/TETFund
Main works	Interview	Project in use
Project phase	Interview	Post-construction
Progress report	-	-
Press release/Newsletters	-	-
Minutes of project meeting	-	-
Selected presentations	-	-
Literature in public domain	-	-
Costs (Initial)	Interview	About N361,000,000.00 or £1,444,000.00
Cost (Final)	-	-
Duration (Initial)	Interview	9 months
Duration (Final)	Interview	1 year 3 months

Table 5.11 Data/Information of Case Study C Project II

Features/Items	Source(s) of data/information	Description
Type and size	Interview/letter of institutional accreditation matters on repairs/report of damage due to windstorm/certificates of satisfactory completion and payment for repair work from participant	School of Agriculture and Agricultural Technology
Funding/Sponsor	Interview	Federal budget/TETFund
Main works	Interview	Project in use
Project phase	Interview	Post-construction
Progress report	-	-
Press release/Newsletters	-	-
Minutes of project meeting	-	-
Selected presentations	-	-
Literature in public domain	-	-
Costs (Initial)	Job order/certificate of satisfactory completion from participant	N1,803,653.25/N785,113.50 or £7,214.61/£3,140.45
Cost (Final)	Job order/certificate of satisfactory completion from participant	N1,803,653.25/N785,113.50 or £7,214.61/£3,140.45
Duration (Initial)	-	-
Duration (Final)	Job order/certificate of satisfactory completion from participant	34 days (04/05/2010 – 07/06/2010) for windstorm repairs

Table 5.12 Data/Information of Case Study C Project III

Features/Items	Source(s) of data/information	Description
Type and size	Interview	Central lecture classroom Phase II
Funding/Sponsor	Interview	TETFund
Main works	Interview	Project awaiting award for construction of the central lecture classroom Phase II
Project phase	Interview	Pre-construction
Progress report	-	-
Press release/Newsletters	-	-
Minutes of project meeting	-	-
Selected presentations	-	-
Literature in public domain	-	-
Costs (Initial)	Interview	At tender stage, cost cannot be disclosed
Cost (Final)	Interview	-
Duration (Initial)	Interview	About 3 months
Duration (Final)	Interview	-

Table 5.13 Data/Information of Case Study C Project IV

Features/Items	Source(s) of data/information	Description
Type and size	Interview	Electronic Testing Centre (ETC)
Funding/Sponsor	Interview	TETFund
Main works	Interview	Project awaiting award for construction of the Electronic Testing Centre (ETC)
Project phase	Interview	Pre-construction
Progress report	-	-
Press release/Newsletters	-	-
Minutes of project meeting	-	-
Selected presentations	-	-
Literature in public domain	-	-
Costs (Initial)	Interview	-
Cost (Final)	Interview	-
Duration (Initial)	Interview	About 12 months
Duration (Final)	Interview	-

Table 5.14 Data/Information of Case Study C Project V

Features/Items	Source(s) of data/information	Description
Type and size	Interview	Department of Cyber Security
Funding/Sponsor	Interview	TETFund
Main works	Interview	Construction of the Department of Cyber Security
Project phase	Interview	Construction
Progress report	Interview	Project at foundation level, and progressing slow
Press release/Newsletters	-	-
Minutes of project meeting	-	-
Selected presentations	-	-
Literature in public domain	-	-
Costs (Initial)	Interview	About N640,000,000.00 or £2,560,000.00
Cost (Final)	Interview	-
Duration (Initial)	Interview	51 weeks
Duration (Final)	Interview	-

Further details of data from the case are shown in Appendix D Tables D3 (on experience of participants); D7 (on understanding of the concepts of project and stakeholder management); D11 (on understanding of the objectives of the case study project); D15 (on understanding of the criteria for measuring the case study project's success); D19 (on understanding of the cost of the case study project); D23 (on understanding of the duration of the case study project); D27 (on understanding of the key specifications of the case study project); D31 (on understanding of the quality of the case study project); (D35 for understanding of the performance on/of the case study

project); and D39 (on understanding of the stakeholder satisfaction on the case study project). Others include D43 (on understanding of the process/steps for the management of project stakeholders on the case study project); D47 (on understanding of the participants in the stakeholder management processes for the case study project); D51 (on understanding of the qualifications of the participants in the stakeholder management processes for the case study project); D55 (on understanding of the techniques of stakeholder management for the case study project); and D59 (on understanding of the outputs of the stakeholder management processes for the case study project).

5.1.4 Case study D

This case study was the Physical Planning Unit of a university. The average annual budget expended on projects in the unit was put at between five hundred million naira (N500m) or £2m and five hundred and fifty million naira (N550m) or £2.2m. This budget covers on-going projects and maintenance of existing projects. The sources of funding for the projects include capital from budgetary allocation from the Federal Government budget; TETFund, and IGR. Although these are regular sources of project funding in the university, other sources of funding which are not regular include from philanthropists, alumni, and corporate organisations, which were not captured in this research.

Similarly as in the above case study, although it was initially proposed to interview at least nine participants (to ensure wide and deep understanding of the research issues); three for projects at each of pre-construction, construction and post-construction phases, only one participant was interviewed from this case study, due to insufficient willing participants and project management team members. The participant is coded as part of requirement stated in Section 3.4.2.7.4.6. The participant from the case study is coded as Inv-JC-DDR-120612-D who was interviewed on three projects, one each from pre-construction (designated Case Study D Project I in Table 5.15), construction (designated Case Study D Project II in Table 5.16), and post-construction phases (designated Case Study D Project III in Table 5.17). The three projects included, lecture theatres and studios at pre-construction phase; five blocks of buildings for School of Agriculture and Agricultural Technology, with four of the blocks of buildings to accommodate eight

departments of the school and the other one to accommodate the Dean of the school's office; and the third project was classrooms and offices project at post-construction phase constructed to accommodate the Consultancy unit of the university. Tables 5.15 – 5.17 outline the main features of the projects (the unit of analysis of the study) in the Case Study D.

Table 5.15 Data/Information of Case Study D Project I

Features/Items	Source(s) of data/information	Description
Type and size	Interview	Lecture theatres and studios
Funding/Sponsor	Interview	TETFund
Main works	Interview	-
Project phase	Interview	Pre-construction
Progress report	Interview	-
Press release/Newsletters	-	-
Minutes of project meeting	-	-
Selected presentations	-	-
Literature in public domain	-	-
Costs (Initial)	Interview	-
Cost (Final)	Interview	-
Duration (Initial)	Interview	-
Duration (Final)	Interview	-

Table 5.16 Data/Information of Case Study D Project II

Features/Items	Source(s) of data/information	Description
Type and size	Interview	5-blocks of buildings for School of Agriculture and Agricultural Technology, with 4 of the blocks to accommodate eight departments of the school and the other 1 to accommodate the Dean of the school's office
Funding/Sponsor	Interview	Federal budget/TETFund
Main works	Interview	-
Project phase	Interview	Construction
Progress report	Interview	-
Press release/Newsletters	-	-
Minutes of project meeting	-	-
Selected presentations	-	-
Literature in public domain	-	-
Costs (Initial)	Interview	-
Cost (Final)	Interview	-
Duration (Initial)	Interview	-
Duration (Final)	Interview	-

Table 5.17 Data/Information of Case Study D Project III

Features/Items	Source(s) of data/information	Description
Type and size	Interview	Classrooms and offices to accommodate the Consultancy unit of the university
Funding/Sponsor	Interview	Federal budget/TETFund
Main works	Interview	-
Project phase	Interview	Post-construction
Progress report	Interview	-
Press release/Newsletters	-	-
Minutes of project meeting	-	-
Selected presentations	-	-
Literature in public domain	-	-
Costs (Initial)	Interview	-
Cost (Final)	Interview	-
Duration (Initial)	Interview	-
Duration (Final)	Interview	-

Further details of data from the case are shown in Appendix D Tables D4 (on experience of participants); D8 (on understanding of the concepts of project and stakeholder management); D12 (on understanding of the objectives of the case study project); D16 (on understanding of the criteria for measuring the case study project's success); D20 (on understanding of the cost of the case study project); D24 (on understanding of the duration of the case study project); D28 (on understanding of the key specifications of the case study project); D32 (on understanding of the quality of the case study project); D36 (on understanding of the performance on/of the case study project); and D40 (on understanding of the stakeholder satisfaction on the case study project). Others include D44 (on understanding of the process/steps for the management of project stakeholders on the case study project); D48 (on understanding of the participants in the stakeholder management processes for the case study project); D52 (on understanding of the qualifications of the participants in the stakeholder management processes for the case study project); D56 (on understanding of the techniques of stakeholder management for the case study project); and D60 (on understanding of the outputs of the stakeholder management processes for the case study project).

5.2 Research Participants' Information and Data Accuracy/Reliability

In each case study, face-to-face and telephone semi-structured interviews with key project management team members within the university physical planning unit were conducted. This was to obtain the views of the participants as the key operators of the project and stakeholder management process. In order to strengthen the data and to fulfil the requirements of multiple sources of evidence for case study, the face-to-face and telephone semi-structured interviews were supplemented with the study of relevant project reports and documents and observations as stated in the research design and protocol in Chapter 3.

The understanding of the basic concepts of project and stakeholder management among the research participants was investigated. Furthermore, the questions sought to establish, participants in the stakeholder management processes; qualification of participants in stakeholder management; techniques of stakeholder management; and outputs of the stakeholder management process in the project stakeholder management process model across the adopted project life cycle phases for this research.

The data obtained on this section from the empirical studies were labelled as: position held in organisation, years spent in current position, years spent in organisation, projects involved with in pre-construction phase in organisation, projects involved with in construction phase in organisation, and projects involved with in post-construction phase in organisation. The purpose of these was to enable comment or accuracy/reliability of the data:

- From the positions of the participants, to identify the influence and qualification of the participants in the management of projects and stakeholders in the organisations.
- From the years spent in the positions and organisations of the participants, to identify the experience gained in the position and organisation, and therefore experience in the management of projects and stakeholders in the organisations.
- To identify the participants' breadths of experience in the management of projects and stakeholders across the three phases of a project life cycle.
- To identify and demonstrate the reliability of the data gathered.

The details of the data, analyses and critical interpretation are shown in the sections below.

5.2.1 Experience of research participants in project and stakeholder management

The questions in this section sought to establish the participants' experience. This is determined in terms of positions held in the organisation, years spent on the positions, years spent in the organisation. Also, this is to indicate the breadth of experience in terms of the types and/or number of projects involved with in the three phases of a project life cycle adopted for this research. The data in this section were based on the research interview questions in Appendix C Section A.

5.2.1.1 Positions in organisations

Table D1 in Appendix D show the different positions of the participants in Case Study A, which depend on appointment or promotion (career growth) or both. It was revealed that the position of the Director is on appointment, while other positions are on promotion and/or appointment. The positions of the five participants interviewed range from Senior Architect at the bottom to Deputy Director at the top. Thus, the positions show one Senior Architect and one Principal Architect (based on career growth), one Chief Architect/Head of Planning & Design (based on career growth and appointment), and two Deputy Directors (based on career growth). Based on three management levels in the organisation, which are bottom, middle, and top; three participants were in the top management level of the organisation, one in the middle management level, and one in the bottom management level. These cut across the three levels of the project management team of the organisation.

Similarly, in Case Study B (Table D2 in Appendix D), there was one Architect/Head of Drawing Office, one Principal Technical Officer, one Senior Quantity Surveyor/Chief Physical Planning Development Officer, and one Acting Director. This showed two of the participants belonging to the top management level of the organisation and two in the middle management level.

In the case of Case Study C (Table D3 in Appendix D), among the five participants interviewed, there was one Civil Structural Engineer, one Architect, one Quantity

Surveyor I, one Senior Quantity Surveyor, and one Deputy Director. In this case study, one of the participants is in the top management level of the organisation, one in the middle management level, and three in the bottom management level; which cut across the three levels of the project management team of the organisation.

In Case Study D (Table D4 in Appendix D) however, there was only one participant whose position was Deputy Director at the top management level.

Within and across case analysis show that although there were unequalled distribution of the positions across the cases, however, majority of the participants were in key/influential positions to be involved in the management of projects and stakeholders in their respective organisations. Therefore based on that and the fact that there were no other participants, these participants were considered to be reliable data sources.

5.2.1.2 Years spent in current positions

Table D1 in Appendix D for Case Study A show that among the five participants interviewed, two had spent 5 and more years in their positions, one had spent 3 years. The remaining two participants had spent less than 3 years. This shows that majority of the participants had spent 3 and more years. Considering the possible estimated duration for the execution of a project, the transition of a project between phases, and influence of the participants, it could be expected that the participants had spent adequate time in their current positions to have been involved in the management of projects and stakeholders in all phases of a project's life cycle.

From Case Study B (Table D2 in Appendix D), among the four participants interviewed, only one had spent 3 years in their current position, while the rest spent less than 3 years. Although the participants in this case study had spent very limited years in their current positions, they were the only participants in the organisation.

Similarly, the participants in Case Study C (Table D3 in Appendix D) show that among the five participants interviewed, four had spent 3 and more years in their current position, while the remaining one had spent only 2 years in their current position. This indicate that majority of the participants have spent 3 and more years in their current

positions, thus, have been involved in the management of projects and stakeholders in all phases of a project's life cycle.

In the case of Case Study D (Table D4 in Appendix D), there was only one participant who had spent six years in the current position. Similarly, considering the possible estimated duration for the execution of a project, the transition of a project between phases, and influence of the participant, it could be expected that the participant had spent adequate time in the current position to have been involved in the management of projects and stakeholders in all phases of a project's life cycle.

Within and across the cases, despite the variations in the years spent by the participants in their current positions, ranging between 2 and more than 5 years, it was shown that with the positions of influence held by the participants and the years spent in those position, majority would have been involved in the management of projects and stakeholders in all phases of a project's life cycle. This is considering that participants would have been involved in several projects in different phases at the same time within the years spent in the positions and considering the durations of the phases of the projects. Thus, on the bases of these and being the only participants that offered to participate, they were considered experienced enough to participate in the research study, as well as being reliable sources of data/information.

5.2.1.3 Years spent in organisations

The participants in Case Study A (Table D1 in Appendix D) had spent between one and half years and twenty-eight years in their organisation. Majority of the participants spent more than 15 years in the organisation, showing that three participants spent 17 and more years and the other two spent less than 3 years. Considering the possible estimated duration for the execution of a project, the transition of a project between phases, and the understanding of the organisation, it could be expected that the participants had spent adequate time in the organisation to have been involved in the management of projects and stakeholders in all phases of a project's life cycle.

From Case Study B (Table D2 in Appendix D), it was revealed that the participants had spent between two and eleven years in their organisation, which were adequate to have

been involved in the management of projects and stakeholders in all phases of a project's life cycle. The details of the years spent by the participants showed that one participant spent 11 years, one spent 5 years, one spent 3 years, and one spent 2 years.

Similarly, the participants in Case Study C (Table D3 in Appendix D) who had spent between two and twenty-two years in their organisation indicated adequate years to have been involved in the management of projects and stakeholders in all phases of a project's life cycle. The details of this showed that one participant spent 22 years, one spent 5 years, one spent 4 years, one spent 3 years, and one spent 2 years.

However, there was only one participant in Case Study D (Table D4 in Appendix D) who spent twenty-three years. Although this participant was the only in this case study, considering the possible estimated duration for the execution of a project and the transition of a project between phases, it could be expected that the participant had spent adequate time in the current position to have been involved in the management of projects and stakeholders in all phases of a project's life cycle.

Within and across the cases, despite the variations in the years spent by the participants in their organisations, it was revealed that the years spent in the organisations were adequate enough for the participants to have been involved in the management of projects and stakeholders in all phases of a project's life cycle. This is considering that participants would have been involved in several projects in different phases at the same time within the years spent in the organisations and considering the durations of the phases of the projects. Thus, on the bases of these, the participants were considered experienced enough to participate in the research study, as well as being reliable sources of data/information.

5.2.1.4 Projects involved with in pre-construction phase in organisation

From Case Study A (Table D1 in Appendix D), it is shown that the participants were involved in the management of various projects at the pre-construction phase. While two participants could specify the type and/or number of projects involved with due to the relatively few years spent in the organisation, the other three could not due to the

several projects involved with as a result of the relatively more years spent in the organisation.

In the case of Case Study B (Table D2 in Appendix D), the participants were also involved in the management of various projects at the pre-construction phase. However, in this case, while three participants indicated involvement with several projects due to their positions and years spent in the organisation, one participant was involved in fewer projects due to the years spent in the organisation.

In Case Study C (Table D3 in Appendix D), the participants were involved in the management of various projects at the pre-construction phase. In similar manner, while four of the participants could mention the specific and/or number of projects involved with due to the relatively few years spent in the organisation, one of the participants could not mention the specific and/or number of projects due to involvement with several projects as a result of the relatively more years spent in the organisation.

However, in the case of Case Study D (Table D4 in Appendix D), there was only one participant who was involved in all the projects across all the phases of the project life cycle.

From all the cases, it was revealed that all the participants were involved with the management of projects at the pre-construction phase, although at different levels of involvement. However, the participants' involvements were adequate to demonstrate experience in the management of the stakeholders on the projects at the pre-construction phase. Thus, the participants were considered experienced enough to participate in the research study, as well as being reliable sources of data/information.

5.2.1.5 Projects involved with in construction phase in organisation

From Case Study A (Table D1 in Appendix D), it is shown that the participants were involved in the management of various projects at the construction phase. While two participants could specify the type and/or number of projects involved with due to the relatively few years spent in the organisation, the other three could not due to the

several projects involved with as a result of the relatively more years in the organisation.

In the case of Case Study B (Table D2 in Appendix D), the participants were also involved in the management of various projects at the construction phase. However, in this case, while three participants indicated involvement with several projects due to their positions and years spent in the organisation, one participant was involved in fewer projects due to the years spent in the organisation.

In Case Study C (Table D3 in Appendix D), the participants were involved in the management of various projects at the construction phase. In similar manner, while three of the participants could mention the specific and/or number of projects involved with due to the relatively few years spent in the organisation, two of the participants could not mention the specific and/or number of projects due to involvement with several projects as a result of the relatively more years spent in the organisation by one of the participants and relevant phase by the other.

However, in the case of Case Study D (Table D4 in Appendix D), there was only one participant who was involved in all the projects across all the phases of the project life cycle.

From all the cases, it was revealed that all the participants were involved with the management of projects at the construction phase, although at different levels of involvement. However, the participants' involvements were adequate to demonstrate experience in the management of the stakeholders on the projects at the construction phase. Thus, the participants were considered experienced enough to participate in the research study, as well as being reliable sources of data/information.

5.2.1.6 Projects involved with in post-construction phase in organisation

From Case Study A (Table D1 in Appendix D), it is shown that the participants were involved in the management of various projects at the post-construction phase. While two participants indicated involvement in few projects in the organisation due to belonging to a different unit of the organisation, the other three indicated involvement

in several projects as a result of involvement in projects in the other unit and due to the years spent in the organisation.

In the case of Case Study B (Table D2 in Appendix D), the participants were also involved in the management of various projects at the post-construction phase. However, in this case, while three participants indicated involvement with several projects due to their positions and/or years spent in the organisation, one participant was involved in fewer projects due to the years spent in the organisation and lack of involvement in all the projects from the other unit of the organisation.

In Case Study C (Table D3 in Appendix D), the participants were involved in the management of various projects at the post-construction phase. In similar manner, while three of the participants could mention the specific and/or number of projects involved with due to the relatively few years spent in the organisation, one of the participants could not mention the specific and/or number of projects due to involvement with several projects as a result of the relatively more years spent in the organisation and belonging to the unit involved in the management of projects at the post-construction phase, and one of the participant indicated lack of involvement due to non-involvement with projects from the other unit of the organisation.

However, in the case of Case Study D (Table D4 in Appendix D), there was only one participant who was involved in all the projects across all the phases of the project life cycle.

From all the cases, it was revealed that not all the participants were involved with the management of projects at the post-construction phase. In addition, those participants involved with the management of projects at this phase had different levels of involvement. However, the participants involved demonstrated adequate experience to be involved in the management of the stakeholders on the projects at the post-construction phase. Thus, the participants were considered experienced enough to participate in the research study, as well as being reliable sources of data/information.

5.3 Chapter Summary and Conclusion

The chapter has demonstrated an organised and systematic collection and presentation of the case studies data gathered and critical analysis and interpretations of some of the results from the data. These included information on the case organisations, research participants and coding, project funding, and case study project information. Other data gathered included experience of research participants in project and stakeholder management which involved positions in organisations, years spent in organisations, years spent in positions, projects involved in pre-construction, construction, and post-construction phases, understanding of some basic concepts of project and project stakeholder management, case study project factual data, and project stakeholder management processes. Determination of research participants' experience was meant to determine the accuracy/reliability of the data obtained from the research participants.

Critical analysis and interpretation of the data shows participants that were experienced enough and influential in terms of their positions; experienced due to the years spent in positions and organisations, experienced due to the projects they have been involved with across the phases of a project life cycle. Therefore, the data/information obtained from the research participants were considered accurate, reliable and a reflection of what were available to them on the projects and the organisations. Although the data/information gathered were considered reliable, accurate and reflect the true situations in the case studies, they could be considered to be scanty for what they should have been. Consequently, these have implication for the analysis and proposal for improvement that follow. The following chapter shows the analysis of the practice of project stakeholder management to determine the strengths and/or weaknesses of the practice.

Chapter 6 Stakeholder Management Practice in Public Sector Projects in Nigeria

This chapter presents the analyses and interpretations of the practice of project stakeholder management from the empirical study in this research, highlighting the strengths and weaknesses. The analyses compare the findings from the case studies and the extant theories on the relevant areas in the literatures and interpret the implications. The evidences in the literatures as shown in Chapters 2, 3, and 4 are compared with the qualitative and quantitative data presented in Chapter 5 and Appendix D. The review of the literature and body of knowledge on the practice of project and project stakeholder management, and the syntheses of theoretical issues as shown in Chapters 2, 3, and 4 show the need for the better understanding of project stakeholder management process to improve project stakeholder management for project success. On the bases of these a conceptual model was developed in Chapter 4. As part of the investigative stage of the research, the conceptual model was used in 17 semi-structured interviews on 15 participants in 4 case studies to gather both qualitative and quantitative data. The analyses of data in this chapter are presented in the following sections.

- Section 6.1 presents the analysis on the understanding of the concept of project and stakeholder management by the research participants
- Section 6.2 presents the analysis on the understanding of cases projects' factual data by the research participants
- Section 6.3 presents the analysis and interpretations of the practice of project stakeholder management;
- Section 6.4 presents the summary of the practice, highlighting the strengths and weaknesses and design criteria for the improvement system; and
- Section 6.5 is the chapter summary which provides the conclusion to the chapter.

6.1 Understanding of the Concepts of Project and Stakeholder Management

The questions in this section (Appendix C Section B) sought to establish the participants' knowledge/understanding of some basic concepts in project management relevant to projects and project stakeholder management, but more specifically those

concepts that affect project success. The purpose was to evaluate how the participants demonstrate broad and deep knowledge/understanding of these basic terms/concepts to efficiently and effectively manage projects and project stakeholders, as the client project management team. Also, this is to understand the implication for the management of projects and project stakeholders.

The basic terms/concepts considered included: project objectives, project success and project success criteria, project life cycle, project stakeholder and project stakeholder management. The findings from the questions analysed below are presented in Tables D5 – D8 in Appendix D.

The findings from the cases reveal varying positions from the individual participants and the individual cases. The findings revealed different positions from even within the same case study. Attempts made by the participants to describe the concepts, generally revealed narrow and shallow understanding of the concepts for adequate management of the projects and stakeholders. Several perspectives of the concepts of project success and project stakeholder management have been revealed from the literature, as explained in Sections 2.3 and 2.4. The analysis of the perspectives of the research participants using NVivo showed no pattern on the understanding of the concepts/terms in terms of research participants' position and years spent in position and/or organisation.

Across the cases, similar analysis of the responses revealed no difference in the understanding/knowledge of the concepts/terms by the participants. In addition, there was no any pattern identified with respect to participants' positions, years spent in position and/or organisation and organisation (or case), implying that there is no pattern among the cases showing competencies of the project management teams, concerning these concepts.

Consequently, the implication of this could have led to lack of the adequate understanding of these concepts of project management, thus, ineffective management of the project stakeholders and the projects. Therefore, a framework that considers the understanding of the general concepts of project management by the client's project

management team and other participants in the management of project stakeholders and projects is recommended. This is to improve the efficient and effective management of projects and project stakeholders.

6.2 Understanding of Cases Projects' Factual Data

In this section, the questions (Appendix C Section C) sought to establish from the participants, project's key factual data used to assess project's success. These include, 'the projects' objectives; 'the projects' success criteria; 'the projects' costs (estimated and current/actual); 'the projects' durations (estimated and current/actual); 'the projects' key specifications; 'the projects' qualities; 'the projects' performances; and 'the projects' stakeholders satisfactions. In addition to seeking to establish the factual data about the particular case study project, the questions sought to establish how the participant's understanding and use of the factual data concur with their meanings in the literature, and their consideration in the management and assessment of the projects. The purpose was to determine the success of the projects that the participants were involved in managing, otherwise, to also establish the causes and the actions taken in managing the causes. Furthermore, project documents relevant to the projects were sought to corroborate the information from the participant and to verify uncertain information provided by the participant.

D9 – D40 in Appendix D obtained data on the cases projects' factual data. Generally, within and across the cases, it was revealed that there was no clear understanding of the concepts of the factual data, as participants expressed different views about these concepts. The concepts of the case study project's objectives, success, and criteria for success as described by the participants showed that as the views of the participants. There were no organisational positions on those as standards for the participants, thus lack of concurrence by participants. Also, participants' responses showed no broad and deep understanding of the above concepts as described in the literature and body of knowledge as shown in Sections 2.3 and 2.4.

In addition, there were contradictions from the participants about the projects' costs, times, qualities, performances, and stakeholder satisfactions. While in most instances the responses of the participants showed that the costs, times, qualities, and

performances, were not achieved as estimated, yet the participants' responses revealed stakeholder satisfactions. Furthermore, there were scanty or no project documents to verify the information provided verbally by the participants. In most cases where project documents were available, the information in the documents was irrelevant to the issues investigated.

The implications of these to the management of the stakeholders and the project include:

- Poor or lack of the achievement of the project's objectives, since the project management teams are unaware of the objectives.
- Poor guidance and monitoring due to non-availability of project documents, leading to uncoordinated management of the project and project stakeholders.
- Thus, the success of the project in terms of the primary objectives and satisfaction of stakeholders may not be achieved in the long run.

Thus, a framework that considers a project management information system (PMIS) for populating and management of project data/information is recommended. This is to ensure availability and access to project data/information for efficient and effective management of projects and project stakeholders.

6.3 Case Studies Practice of Project Stakeholder Management

Research participants were initially required to indicate the project stakeholder management process for the management of the stakeholders on their respective projects. The analysis of the response of the research participants from the cases on this show variance. The responses reveal informal or lack of project stakeholder management processes for the management of project stakeholders. This is evident in the different views by the research participants about the process of project stakeholder management which are in variance with positions of the authors in the extant literature such as Cleland (1986), Cleland (1988), Cleland (1998), Cleland and Ireland (2002), Elias et al. (2002), Karlsen (2002), Preble (2005), Bourne and Walker (2006), Young (2006), Cleland and Ireland (2007), McElroy and Mills (2007), Walker et al. (2008b),

Jepsen and Eskerod (2009), Yang et al. (2009), British Standard Institute (2010), Luyet et al. (2012), and Project Management Institute (2013).

Although there seemed to exist, similar structure across the universities' project management organisations, however, a formal and systematic project stakeholder management process has not been established. Although the results of the empirical studies show uniform organisational structure in the organisations, the process of project stakeholder management was non-existent, as participants' responses on this showed their individual positions, which were inconsistent. A formal guideline or framework for the process of project stakeholder management has not been established from the participants and the organisations.

The questions in Appendix C Section D sought to establish the practice of project stakeholder management in the cases, using the conceptual model developed in Chapter 4 as a lens. This sought the views of the project management teams (participants) in the cases on the projects they were interviewed about. The purpose was to establish from the case studies, how the participants in the stakeholder management processes; qualification of participants in stakeholder management; techniques of stakeholder management; and outputs of the stakeholder management process; all of which receive little/no attention in current literature about, and practice of stakeholder management are determined using the adopted project stakeholder management process in Chapter 4 across the project life cycle phases. D41 – D44 in Appendix D show the data obtained from the research participants on project stakeholder management process. Analysis of the data as presented in Table 6.1 showed non-existence of project stakeholder management process among any of the case study organisations. Some of the participants were categorical about the non-existence of any such process. The responses of the research participants showed inconsistency even within the same organisation about what they considered project stakeholder management process. Most of the responses indicated the process of managing the projects, rather than the stakeholders.

Table 6.1 Response on project stakeholder management process

Participant	Project	Response on project stakeholder management process
Inv-BD-DDR-180612-A	I	Regular building inspection is carried out and inspection report is produced. Done by going round and noting defects by building officer and subordinates.
Inv-KM-PAR-240512-A	II	Periodic reports written and submitted by the unit to the university management, which meets regularly to consider. Also by occasional visit to project site by the university management to monitor progress of the project. No particular stakeholder management process, except specific requirements and type of stakeholder participation.
Inv-PB-CAR-280512-A	III	No specific stakeholder management process as such. Committee set up by the university to brainstorm on the project through regular meetings.
Inv-PY-DDR-140612-A	IV	Process started with the Chief Executive who had the vision for the project, then passed on the idea to the unit, who manages other stakeholders. Depending on the amount of work, the design is done internally or external consultants are involved. Designs are produced, estimates made, contract is advertised, contractors bid, selection is made, and contract awarded and executed.
Inv-TA-SAR-280512-A	V	The unit directly supervises the project. Process is usually through meetings once monthly where issues are addressed. This involves all the stakeholders.
Inv-IB-ADR-300512-B	II	Maintenance officers cover the building, in addition to other residential and academic areas. They are there to monitor and manage the stakeholders' needs and that of the building. They carry-out routine maintenance, with materials at their disposal , such electric bulbs and cleaning detergents.
Inv-GA-SQS-300512-B	I	There is the TETFund implementation committee that oversees all TETFund projects. They monitor the implementation of the projects, which this is one. They go round the projects from time to time to check. There is no stakeholder management process.
Inv-MA-PTO-310512-B	III	The only thing is holding meeting with them and hearing their views, and also seeking their opinion from time to time. There is good relationship with them, but there is any problem, it is resolved on the site.
Inv-WA-ARC-010612-B	IV	This is through monthly meeting with them, consultants, contractors, client and end users. Everything about the project is discussed at the meeting, as well as site inspection.
Inv-AM-SQS-040612-	I	The process is by meeting with them in a round table, for them to say what they feel about the project, what should be there or not.

Participant	Project	Response on project stakeholder management process
C		
Inv-IM-DDR-060612-C	II	This is done by use of feedback mechanism, that is from complains to effecting repairs and certification, between the users and project managers.
Inv-MS-QSI-060612-C	III	The process is to ensure that consultants meet the client's desire and to ensure good working relationship with stakeholders.
Inv-RS-ARC-050612-C	IV	This is done by meeting and brainstorming to ensure delivery of the project on time.
Inv-SA-CEN-060612-C	V	The process is to ensure that there is a good project manager to provide leadership for the management of the project, to manage the entire stakeholders including the contractors. If there are issues, to resolve them.
Inv-JC1-DDR-120612-D	I	There are stakeholders and everybody is involved, design is produced and discussed by management, then the tenders' board are involved, the council is involved. The tenders' board and council most times request all the project documents to screen. The stakeholders are taken from the department to management, tenders' board, and council, and sometimes the end users. Everybody at their level will make contribution, they will check and make sure the right things are done.
Inv-JC2-DDR-120612-D	II	There are stakeholders and everybody is involved, design is produced and discussed by management, then the tenders' board are involved, the council is involved. The tenders' board and council most times request all the project documents to screen. The stakeholders are taken from the department to management, tenders' board, and council, and sometimes the end users. Everybody at their level will make contribution, they will check and make sure the right things are done.
Inv-JC3-DDR-120612-D	III	There are stakeholders and everybody is involved, design is produced and discussed by management, then the tenders' board are involved, the council is involved. The tenders' board and council most times request all the project documents to screen. The stakeholders are taken from the department to management, tenders' board, and council, and sometimes the end users. Everybody at their level will make contribution, they will check and make sure the right things are done.

The data shown in D45 – D60 in Appendix D show varying positions from the research participants, indicating that the participants expressed their positions rather than positions of their organisations. The data gathered on the project stakeholder management participants in the stakeholder management process; the qualifications of the participants in the stakeholder management; the techniques of stakeholder management; and the outputs of stakeholder management process, the data were analysed and presented as shown in the sections below. The Roman numerals (I, II, III, IV and V) in the tables indicate the research participants interviewed on the projects as designated in Chapter 5.

6.3.1 Identifying stakeholders

The analysis of the responses of the research participants on this and other processes below revealed various views. Although the earlier response of the research participants showed nonexistence of project stakeholder management process, responses on this and other subsequent processes shown below referred to the project rather than the project stakeholders.

6.3.1.1 Participants to identify stakeholders

Analysis of the participants' responses as shown in Table 6.2 on this showed inadequate appreciation of the stakeholder maps of the projects. Research participants mentioned inconsistent and few participants to identify project stakeholders (even within same and similar phases), compared to the expected stakeholder groups on the projects. These could be inadequate for efficient and effective identification of the project stakeholders, especially for a public project that should have various stakeholders. Moreover, organisational project documents accessed and analysed to verify and corroborate participants' views provided no clear information. The documents contained only lists of project management (PM) participants without insight about their relevance to project stakeholder identification. Thus, the views shown in Table 6.2 could be understood as the research participants' personal positions rather than having any link to organisational guideline.

Table 6.2 Participants to identify stakeholders

Cases/Project phases		Participants					
		Client	Client PM	Consultants PM	Sponsor or Funder	End user	Contractor
A	Pre-construction	III	III, IV	IV	-	III	IV
	Construction	II, V	II, V	II, V	-	V	V
	Post-construction	-	I	-	-	-	-
B	Pre-construction	I	I	I	I	-	-
	Construction	III	IV	III, IV	-	IV	-
	Post-construction	-	II	-	-	-	-
C	Pre-construction	-	III, IV	III, IV	-	III	III
	Construction	-	V	V	-	-	V
	Post-construction	-	I, II	-	-	I, II	-
D	Pre-construction	I	I	-	-	I	-
	Construction	II	II	-	-	II	-
	Post-construction	III	III	-	-	III	-

The cross-case analyses of the project stakeholder management participants in this process showed all participants agreeing that client project managers (client PMs) as participants at the pre-construction phase. This is followed by consultants project managers (consultants PMs) (four respondents), client and end user (three respondents), contractor (two respondents), and funders/sponsors (one respondent). At the construction phase, client project manager (client PM) and consultants PMs (five respondents), end user (four respondents), client (three respondents), and contractor (two respondents).

Although the importance of participation has been emphasised in the extant literature as explained in Section 4.3.1, however, the review of the project management literature on project stakeholder management process as revealed in Chapters 2 and 4 pay little/no consideration to who the participants to identify project stakeholders are. While it is considered that the participants to identify the project stakeholders will depend on the project and the project stakeholders, majority of the literature (see Table 4.2) recognise only the project manager or project management teams. However, unlike most views, Young (2006) suggests the involvement of the sponsor and customer in identifying the stakeholders, due to the impact of some stakeholders on both.

In the extant literature, little insight has been given on the techniques of identifying participants by Calvert (1995), Pouloudi and Whitley (1997), Brugha and Varvasovszky (2000), Karlsen (2002), Elias et al. (2002), Bourne and Walker (2006), Walker et al.

(2008b), Young (2006). The techniques suggested include: brainstorming in group meetings to identify names of all stakeholders; asking persons in the organisation to point out stakeholders; use of checklists or generic stakeholder lists; listing out all functions that are expected to have influence or interest in the project and identifying the individual in each function to have conversation about their specific interest; interviews with experts; and workshops.

Also, little insight has been given in the literature to understand the stages in the project life cycle for identifying participants to identify project stakeholders. For example, Young (2006) suggests project stakeholder identification at the project start-up and then reviewed at regular intervals in the project life cycle, as more stakeholders may appear later in the project life. This is also as the relative importance of each stakeholder also changes with time through the stages of the project.

The individual response of the research participants within and across the cases showed more participants compared with the literature and body of knowledge. However, considering the stakeholder map of public sector projects, which involve several stakeholders, this is inadequate. The participants to identify the project stakeholders should include the key stakeholders on the project, that is, the key individuals and groups on the projects. Thus, this is expected to consider the stakeholder map of the project, to select/identify individuals and groups that will improve project success by effective management of the project stakeholders. Thus, the implication of this is that the participants expected to ensure effective management of the project stakeholders are not identified, therefore affecting the improvement of project success.

6.3.1.2 Qualifications of participants to identify stakeholders

The analysis of the responses of the research participants on this as shown in Table 6.3 show various views, which show statutory domain role (eleven responses), position/years spent in organisation (eleven responses), and professional affiliation (ten responses) as the top-most three views across the cases and phases. Similarly, the least on the views are qualification by automatic (one response) and being a beneficiary (four responses). However, organisational project documents accessed and analysed to verify and corroborate the positions of the research participants contained scanty and irrelevant information.

Table 6.3 Qualifications of participants to identify stakeholders

Qualifications	**Cases/Project phases**											
	Case Study A			Case Study B			Case Study C			Case Study D		
	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const
Beneficiary	III	-	-	-	IV	-	-	-	I, II	-	-	-
Statutory domain role	III, IV	II, V	-	I	III, IV	-	-	-	II	I	II	III
Position/years spent in organisation	IV	II	I	-	-	II	III, IV	V	-	I	II	III
Professional affiliation	IV	-	I	I	-	-	III, IV	V	-	I	II	III
Technical competence	-	V	-	-	III, IV	-	-	-	-	-	-	-
Educational	-	-	-	-	-	II	III	V	I	I	II	III
Automatic	-	II	-	-	-	-	-	-	-	-	-	-

The cross-case analysis of the participants' qualifications for pre-construction phase shows professional/technical competence and experience topping with five respondents each. These are followed by statutory domain role with four respondents, educational knowledge (two respondents) and being beneficiary (one respondent).

Insights in the literature describing the qualifications of participants to identify stakeholders include: participants with different background, to improve the support and ownership of the stakeholder management process (Karlsen, 2002) and individuals who are familiar with the project deliverables and constraints, and with the organisational structure and politics (Bourne and Walker, 2006; Walker et al., 2008b).

The evidence from the literature compared to the response of the research participants show different and limited perspectives about the qualifications of participants to identify project stakeholders. Therefore, the implication of this to the effective management of stakeholders is that participants with inadequate qualifications may have been involved. Also, the right participants to ensure effective management of the project and stakeholders may be excluded, therefore subsequently affecting the improvement of project success.

6.3.1.3 Techniques of identifying stakeholders

Analysis of the responses of the project management teams from the case studies showed various views about the techniques of identifying project stakeholders, which in actual sense were referred to the projects. This as shown in Table 6.4 indicates meetings and participation with five responses each topping the views of the research participants. These are followed by involvement with four responses, brainstorming, reporting, instructions, regular inspection and communication with two responses each. Other responses such as presentation, experience sharing, breakdown maintenance, preventive maintenance, compliance, and engagement all show one response. The responses which refer to the project stakeholders view project stakeholders as the end users, whose technique of identification is by simply inviting them. The organisational project documents accessed only showed lists of project management participants without insight about how the lists were arrived at.

Table 6.4 Analysis of techniques of identifying stakeholders

Techniques	**Cases/Project phases**											
	Case Study A			Case Study B			Case Study C			Case Study D		
	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const
Presentation	III	-	-	-	-	-	-	-	-	-	-	-
Reporting	III	-	-	-	III	-	-	-	-	-	-	-
Experience sharing	IV	-	-	-	-	-	-	-	-	-	-	-
Brainstorming	IV	-	-	-	-	-	-	V	-	-	-	-
Meetings	-	V	-	-	IV	-	-	-	-	I	II	III
Instructions	-	V	-	-	-	-	IV	-	-	-	-	-
Regular inspection	-	-	I	-	-	II	-	-	-	-	-	-
Engagement	-	-	-	-	-	-	III	-	-	-	-	-
Participation	-	-	-	-	-	-	III	V	-	I	II	III
Involvement	-	-	I	-	-	-	-	-	I	I	II	III
Communication	-	-	-	-	-	-	-	-	I, II	-	-	-
Breakdown maintenance	-	-	I	-	-	-	-	-	-	-	-	-
Preventive maintenance	-	-	-	-	_	II	-	-	-	-	-	-
Compliance	-	-	-	-	III	-	-	-	-	-	-	-

Several techniques have been suggested in the extant literature for identifying project stakeholders. These techniques include: stakeholder analysis, expert judgement, and meetings (Project Management Institute, 2013); brainstorming in group meetings, interviews with experts, and the use of checklist (Karlsen, 2002); conducting brainstorm to identify names of all stakeholders (Calvert, 1995); asking persons in the organisation to point out stakeholders(Pouloudi and Whitley, 1997; Brugha and Varvasovszky, 2000); workshops with individuals who are familiar with the project deliverables and constraints, and with the organisational structure and politics (Bourne and Walker, 2006; Walker et al., 2008b); and stakeholder map and chart of specific stakeholders (Elias et al., 2002). Similarly, the Association for Project Management (2006) observe that brainstorming of potential stakeholders may identify: resources required for the project; organisations or people to be affected by the project; organisations or people outside the project who will influence attitudes and behaviours; and statutory and regulatory bodies.

Thus, compared to the literature, the responses of the research participants demonstrate lack of understanding of the concept of techniques of identifying stakeholders. Therefore, the implication of this is that all the potential stakeholders are not identified. Consequently, this affects the effective management of the stakeholders, as well as the improvement of project success.

6.3.1.4 Outputs of identifying stakeholders

Analysis of the responses of the research participants on this showed reference to the project rather than the project stakeholders. Table 6.5 show the responses of the research participants on the outputs of identifying stakeholders, which show various views, such as performance, satisfactory output of project, contributions, useful suggestions, satisfactory delivery of project among others. The concept of the project stakeholders according to the views to the research participants are the end users. Furthermore, there were no organisational project documents to show the outputs of identifying stakeholders on the projects.

Table 6.5 Outputs of identifying stakeholders

Case	Project Life Cycle	Outputs of identifying stakeholders	Project
A	Pre-construction	Satisfactory leading to satisfactory/agreeable changes; delay due to changes to observations made	III; IV
	Construction	Expectation is agreeable project to stakeholders; less than expected achieved	II; V
	Post-construction	Performance, satisfactory output due to proximity to project manager	I
B	Pre-construction	-	I
	Construction	Expected that everybody is carried along, participate, relate well, output just okay; expected output is successful quality work achieved through professional resolutions of problems	III; IV
	Post-construction	Excellent output expected, but only reasonably fairly achieved	II
C	Pre-construction	Input and relationship of participants; adherence to specifications and programme of work by contractor	III; IV
	Construction	Satisfactory delivery of project at stage	V
	Post-construction	Project completed; satisfaction of users due to involvement	I; II
D	Pre-construction	Useful suggestions, contributions, implementation which are good	I
	Construction	Useful suggestions, contributions, implementation which are good	II
	Post-construction	Useful suggestions, contributions, implementation which are good	III

There is limited consideration in the literature compared to the models on project stakeholder management process, for determining the outputs of project stakeholder identification. Among the models, the Project Management Institute (2013) states that the outputs of identifying project stakeholders is the stakeholder register, which contains all details related to the identified stakeholders. These details include: identification information (name, organisational position, location, role in the project, contact information), assessment information (main requirements, main expectations, potential influence in the project, phase in the life cycle with the most interest), and stakeholder classification (internal/external, supporter/neutral/resistor). Also, the use of the stakeholder map of the project and the chart of the specific stakeholders as suggested by Elias et al. (2002) can demonstrate the ability to predict the outputs of the project stakeholder identification.

Analysis of the responses of the research participants compared to the evidences in the literature showed lack of the understanding of the concept of outputs of stakeholder identification by the research participants. Therefore, the implication of that would have been that the potential project stakeholders were unidentified, which have further implications for the identification information, assessment information, and stakeholder

classification. Consequently, this could have affected the effective management of the stakeholders and the improvement of project success.

6.3.2 Gathering stakeholders' information

6.3.2.1 Participants to gather stakeholders' information

Analysis of the research participants' response on this as shown in Table 6.6 reveal that the client, client PM, consultants PMs, sponsors/funders, and end users have been identified as the participants to gather stakeholders' information. It is shown that the client PM is the only participant considered to gather stakeholders' information across the project life cycle. All the participants except one in Case Study B at construction phase agree to this. Also, across the phases, other participants such as the client, the consultants PMs and end user, have been considered. However, the consultants PMs have not been considered to gather stakeholders' information at the post-construction phase.

Table 6.6 Analysis of participants to gather stakeholder information

Cases/Project phases		**Participants**				
		Client	Client PM	Consultants PM	Sponsor or Funder	End user
A	Pre-construction	III	III, IV	III	-	III
	Construction	II, V	II, V	-	-	V
	Post-construction	-	I	-	-	-
B	Pre-construction	I	I	-	I	-
	Construction	III, IV	IV	III, IV	-	III, IV
	Post-construction	-	II	-	-	-
C	Pre-construction	-	III, IV	III, IV	-	-
	Construction	-	V	V	-	-
	Post-construction	-	I, II	-	-	I, II
D	Pre-construction	I	I	-	-	I
	Construction	II	II	-	-	II
	Post-construction	III	III	-	-	III

Although there are various contributions offered about gathering information on project stakeholders, however, there is limited guidance about the participants that will gather the required information. Elias et al. (2002) show that project managers are involved in the analysis of the dynamics of stakeholders, but gave no information about the background of the project managers involved. Also, Karlsen (2002) only states that the project manager is involved in the classification of the analysed stakeholders into supportive, marginal, non-supportive, and mixed blessing. This aligns with the position of Savage et al. (1991). Similarly, Jepsen and Eskerod (2009) show that the project manager or project team are involved in assessing the contributions of the stakeholders. Earlier, Mikkelsen and Riis (2007) propose that the project manager, the team members and line managers assess the expectations and benefits of the stakeholders.

However, considering the key stakeholder groups expected on the projects, the participants considered are insufficient to obtain the required information on the project stakeholders, as the project management teams might have had no access to all the project stakeholders. Also, the organisational project documents accessed showed scanty irrelevant information on the participants to gather stakeholders' information and to verify and corroborate the views of the research participants, thus, their views considered personal and undocumented for reference. The implication of this could have affected the adequacy of information on the stakeholders. Therefore, this could have subsequently affected the effective management of the stakeholders and improvement of project success.

6.3.2.2 Qualifications of participants to gather stakeholders' information

The analysis of the responses of the research participants on this as shown in Table 6.7 indicate six types of qualifications identified. These include beneficiary (users of project) as a qualification to be involved in gathering stakeholders' information. Other qualifications include statutory domain role indicating the designated role employed to undertake in the organisation, position/years (of influence and experience) spent in the organisation, professional affiliation to professional association related to construction, technical competence related to construction, educational qualification due to formal training on construction. It is shown across the cases, phases and projects that the most

widely spread and considered qualification among the research participants was position/years spent in the organisation. This was followed by statutory domain role and professional affiliation. However, organisational project documents accessed and analysed to verify and corroborate the positions of the research participants contained scanty and irrelevant information. Thus the inconsistencies in the positions of the research participants.

Table 6.7 Analysis of qualifications of participants to gather stakeholders' information

Qualifications	**Cases/Project phases**											
	Case Study A			Case Study B			Case Study C			Case Study D		
	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const
Beneficiary	III	-	-	-	IV	-	-	-	I, II	-	-	-
Statutory domain role	III, IV	II, V	-	I	III, IV	-	-	-	II	I	II	III
Position/years spent in organisation	IV	II	I	I	-	II	III, IV	V	-	I	II	III
Professional affiliation	IV	-	I	I	-	-	III, IV	V	-	I	II	III
Technical competence	-	V	-	-	III, IV	-	-	-	-	-	-	-
Educational	-	-	-	-	-	II	III	V	I	I	II	III

There is limited information from the existing project stakeholder management process models in the literature and body of knowledge specifying the qualifications of participants to gather information on project stakeholders. The available insight by Jepsen and Eskerod (2009) report that Mikkelsen and Riis (2007) suggest having knowledge about the stakeholders and the organisational context. Also, familiarity with the project deliverables and constraints, and with the organisational structure and politics, as suggested by Bourne and Walker (2006) and Walker et al. (2008b) indicate the required capacity by participants to gather information on project stakeholders.

Compared to the available insights in existing literature and body of knowledge, the responses of the research participants reveal new perspectives of viewing qualifications of participants. However, the inconsistencies in the distribution of these across the cases, the projects and phases might have negative implication for gathering stakeholders' information for effective management of stakeholders and improvement of project success.

6.3.2.3 Techniques of gathering stakeholders' information

Although from the analyses of the responses of the project management teams, different views surfaced on this, it is generally deduced that the technique applied is simply questioning, details of which were not given. This is further observed to be related to the management of the physical asset, not specifically the project stakeholders. Across the case studies, the general view is the same irrespective of the experience of the project management team member. Furthermore, no information from the available project documents on the techniques to gather information on project stakeholders.

Analysis of the responses of the research participants across the cases showed various views about the techniques of gathering stakeholders' information, which referred to the physical projects not the stakeholders. These are shown in Table 6.8 include listening to complains, reporting, experience sharing, brainstorming, meetings, questioning, regular inspection, engagement, participation, involvement and communication which reveal inconsistency among the research participants within and across the cases. The organisational project documents accessed contained scanty and irrelevant information on this.

Table 6.8 Analysis of techniques of gathering stakeholders' information

Techniques	**Cases/Project phases**											
	Case Study A			Case Study B			Case Study C			Case Study D		
	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const
Listening to complains	III	II	I	-	-	II	-	V	II	-	-	-
Reporting	III	-	I	I	III	II	-	-	II	-	-	-
Experience sharing	IV	-	-	-	-	-	III, IV	-	-	-	-	-
Brainstorming	IV	-	-	-	-	-	-	V	-	I	II	II
Meetings	III, IV	V	I	-	IV	-	III, IV	-	-	-	-	-
Questioning	-	V	-	-	-	-	IV	-	-	-	-	-
Regular inspection	-	-	I	-	III	II	-	-	II	-	-	-
Engagement	-	-	-	I	III, IV	-	III	-	-	-	-	-
Participation	III, IV	-	-	-	-	-	III	V	II	I	II	III
Involvement	-	-	I	-	-	II	-	-	II	I	II	III
Communication	-	II, V	-	-	III, IV	-	-	-	I, II	-	-	-

Several techniques have been proposed in the extant literature on project stakeholder management process models, for gathering information obtained about stakeholders. In one of such, Elias et al. (2002) suggests categorising the stakeholders in two dimensions, by stake and by power and to continuously update the stakeholder typology to capture the changing salience of the stakeholders. In another technique, Karlsen (2002) shows these in relation to selected issues, such as interest in the project, desired contribution to the project, expected rewards, domains, attitudes, and possible moves.

In addition, Young (2006) suggests that the list of stakeholders need to be examined carefully and agreeing which stakeholders are key, which stakeholders are best kept a distance away from the project, and which stakeholders are unable to influence at all. Furthermore, Young (2006) suggests that potential stakeholders that are considered to have low or insignificant influence should be eliminated. While Varvasovszky and Brugha (2000) suggest the use of face-to-face interviews and questionnaire, Mikkelsen and Riis (2007) propose the use of start-up dialogue. Lastly, Bourne and Walker (2006) and Walker et al. (2008b) suggest that the technique will require workshop by the participants.

Compared to the literature, the responses of the research participants showed lack of understanding of the concept of the techniques of gathering information on stakeholders by the project management teams. The implication of this could have let to lack of gathering the necessary information to ensure effective strategies for stakeholder management and improving project success.

6.3.2.4 Outputs of gathering stakeholders' information

The analysis of the data gathered from the case studies showed inconsistencies in the research participants' views about the information on stakeholders. As shown in Table 6.9, the information relates to the projects rather than the project stakeholders. Key information from the analysis that relate to the projects include complaints, criticisms, observations, contributions, implementations, feedback, and cooperation. This concept of information followed on the concept of information on the projects rather than the information on the project stakeholders, as understood by the research participants.

Table 6.9 Analysis of outputs of stakeholder' information

Outputs	**Cases**											
	Case Study A			Case Study B			Case Study C			Case Study D		
	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const
Complaints	III	II	I	-	-	II	-	V	II	-	-	-
Criticism	III	-	I	I	III	II	-	-	II	-	-	-
Observations	IV	-	-	-	-	-	III, IV	-	-	-	-	-
Contributions	IV	-	-	-	-	-	-	V	-	I	II	II
Implementations	III, IV	V	I	-	IV	-	III, IV	-	-	-	-	-
Feedbacks	-	V	-	-	-	-	IV	-	-	-	-	-
Cooperation	-	-	I	-	III	II	-	-	II	-	-	-

Little consideration in the existing project stakeholder management process models has been given to specific information on project stakeholders. However, Cleland (1988) and Young (2006) have made suggestions the development and focus on information about the stakeholders.

The analysis of responses of the research participants as shown in Table 6.9 and argued earlier in the section compared to the available literature as highlighted above show lack of understanding of the concept of information on project stakeholders. The implication of this is lack of proper and adequate information on project stakeholders causing lack of assessment of the stakeholders' information, as well as implementation of effective stakeholder management strategy. This is argument is supported by Moodley (2002), that lack of information may cause underestimation of the potential impact of stakeholders and give advantage to a small well-organised interest group with access to the media and political influence to pose problem to a project.

6.3.3 Identifying stakeholders' missions

6.3.3.1 Participants to identify stakeholders' missions

Analysis of the data from the empirical studies as shown in Table 6.10 recognised the client, the client PM, the consultants PMs, the sponsor/funder, and end user as the participants to identify stakeholders' missions. Further analysis of the data showed the client and client PM as the widely recognised participants by the research participants across the cases and project life. These are followed by the end user recognised mostly in the pre-construction and post-construction phases. This is shown to be informed by the monopoly mind-set of the client PM, as demonstrated by the monopoly of understanding the needs of all project stakeholders, without involving the stakeholders in every aspect of the project that concerns them. Analysis of the available organisational project documents contained scanty irrelevant information to show participants who identify the project stakeholders' missions.

Table 6.10 Participants to identify stakeholders' missions

Cases/Project phases		Participants				
		Client	Client PM	Consultants PMs	Sponsor or Funder	End user
A	Pre-construction	III, IV	III, IV	-	III	III
	Construction	II, V	II, V	II, V	-	-
	Post-construction	I	I	-	-	I
B	Pre-construction	I	I	-	I	-
	Construction	III, IV	III, IV	III, IV	-	III, IV
	Post-construction	II	II	-	-	II
C	Pre-construction	III, IV	III, IV	-	-	-
	Construction	V	V	V	-	-
	Post-construction	I, II	I, II	-	-	I, II
D	Pre-construction	I	I	-	I	I
	Construction	II	II	-	II	II
	Post-construction	III	III	-	-	III

While the project management process models in the extant literature recognise the importance of identifying the missions of stakeholders, there is no consideration of the participants to identify the missions of the stakeholders. Also, although compared to the literature, the responses of the research participants showed recognition of some participants, however, these have not covered the key stakeholders in the stakeholder map of the project. The implication of this is that the complete required participants are not involved in identifying the missions of stakeholders. Thus, insufficient missions of the stakeholders may be identified therefore causing ineffective stakeholder management and improvement of project success.

6.3.3.2 Qualifications of participants to identify stakeholders' missions

From the analysis of the data on identifying project stakeholders' missions shown in Table 6.11, it is revealed that research participants considered across the cases and project life cycle, statutory domain role as qualification for client and client PM,

technical competence and position/years spent in organisation as additional qualification for client PM. Other qualifications considered but not spread across the project life cycle was beneficiary (for end user), educational (for the client PM), automatic (for the client, the client PM and the funders/sponsors) and professional affiliation (for the client PM).

Table 6.11 Analysis of the qualifications of participants to identify stakeholders' missions

Qualifications	**Cases/Project phases**											
	Case Study A			Case Study B			Case Study C			Case Study D		
	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const
Beneficiary	III	-	I	-	III, IV	II	-		I, II	I, II, III		I, II, III
Statutory domain role	III, IV	II, V	I	I	III, IV	II	III, IV	V	I, II	I, II, III	I, II, III	I, II, III
Position/years spent in organisation	III, IV	II, V	-	I	III, IV	II	III, IV	-	I, II	I, II, III	I, II, III	III
Professional affiliation	III	-	I	-	-	-	-	V	I	-	-	-
Technical competence	IV	II, V	I	I	III, IV	II	III, IV	V	I, II	I, II, III	I, II, III	I, II, III
Educational	-	-	-	-	III	II	III	-	I	I, II, III	I, II, III	I, II, III
Automatic	III	-	-	I	-	-	-	V	-	-	I, II	-

Review of the project stakeholder management process models in the extant literature show little consideration for the qualifications of the participants in identifying the missions of the stakeholders. However, gathering information about how project stakeholders work, and the aspect of the project that may attract their attention as observed by Moodley (2002) may help to understand the missions of stakeholders. Also, the participants with knowledge about the stakeholders and the organisational context as proposed by Mikkelsen and Riis (2007) may be useful in understanding the missions of project stakeholders. In addition, familiarity with the project deliverables and constraints and with the organisational structure and politics, as suggested by Bourne and Walker (2006) and Walker et al. (2008b) are relevant.

Although the responses of the research participants have shown some understanding of the qualifications of the participants, however, that was based on the limited number of participants considered compared to the stakeholder map the projects. The implication of this still remains that inadequate participants may have been involved thereby compromising the effective management of stakeholders and improvement of project success.

6.3.3.3 Techniques of identifying stakeholders' missions

Analysis of the responses of the research participants as presented in Table 6.12 show that the techniques of identifying stakeholders' mission include listening, brainstorming, meetings, questioning, regular inspection, engagement, participation, involvement and communication. The most widely used technique among the research participants across the cases and project phases was meetings. This is followed by involvement used by the research participants across the cases and phases except one participant each in Cases A and C pre-construction phase and Cases B construction phase. The least used techniques include questioning, followed by communication and listening. However, organisational project documents accessed showed non-existence or documentation of these.

Table 6.12 Analysis of techniques of identifying stakeholders' missions

Techniques	**Cases/Project phases**											
	Case Study A			Case Study B			Case Study C			Case Study D		
	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const
Listening	III	-	I	-	-	II	-	-	I, II	-	-	III
Brainstorming	III, IV	V	I	I	III, IV	II	III	-	I, II	I	-	III
Meetings	III, IV	II, V	I	I	III, IV	II	III, IV	V	I, II	I	II	III
Questioning	III	-	-	-	-	-	-	-	-	I	-	III
Regular inspection	-	II, V	I	-	III, IV	II	-	V	I, II	-	II	III
Engagement	-	-	I	I	IV	-	III, IV	V	II	I	-	-
Participation	III, IV	-	I	I	III	-	III, IV	-	II	I	II	III
Involvement	III	II, IV	I	I	III	II	IV	V	II	I	II	III
Communication	-	-	-	-	III, IV	II	-	-	I, II	I	-	-

Sources of guidance on this in the project stakeholder management models and other body of knowledge in the extant literature show non-consideration of techniques of identifying stakeholders' missions. However, gathering information about how project stakeholders work, and the aspect of the project that may attract their attention help to understand their mission (Moodley, 2002). The mission which is determined from the information gathered may be a key building block in stakeholders' strategy (Cleland, 1988). Moodley (2002) further notes that the project and how it impacts on stakeholders is the centre of all missions, as where the project team sees opportunities from the project, others see threats. However, the evidence from information on project stakeholders, as shown above may be relied upon to understand this.

Compared to the literature, although undocumented as their techniques may be, the research participants have given insights into techniques to identify stakeholders' mission.

6.3.3.4 Outputs of identifying stakeholders' missions

Analysis of the responses of the research participants on this as shown in Table 6.13 reveal these as the needs and expectations of the client/sponsor/funder, the client PMs and the end users. These include quality project, satisfaction, timely completion, profit or cost effective project, performance and cooperation, depending on the participant involved. Among these, cooperation has been shown to be the most widely accepted stakeholders' mission among all the research participants, which cut across all cases and project phases. This was followed by satisfaction and then performance and quality project which are not shown in some cases and project phases. However, project documents accessed showed no evidence of these documented for guidance and reference.

Apart from the reference to Cleland (1988) and Moodley (2002) as shown above, no further details exist in the literature on the kind of missions of stakeholders on projects. The implication of lack of the understanding of stakeholders' missions as observed by Moodley (2002), is the negative effect on project success. Thus, inadequate identification of stakeholders' missions may result in ineffective stakeholder management strategies and unimproved project success.

Table 6.13 Analysis of outputs of identifying stakeholders' missions

Outputs	**Cases**											
	Case Study A			Case Study B			Case Study C			Case Study D		
	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const
Quality project	III, IV	II, V	-	I	III, IV	-	III, IV	V	-	I	II	III
Satisfaction	III, IV	II, V	I	I	III, IV	II	III, IV	V	I, II	I	-	III
Timely completion	-	II, V	-	-	III, IV	-	-	V	-	-	II	-
Profit/cost effective	-	II, V	-	-	III, IV	-	-	V	-	I	II	_
Performance	III, IV	II, V	I	-	III, IV	II	-	V	I, II	-	II	III
Cooperation	III, IV	II, V	I	I	III, IV	II	III, IV	V	I, II	I	II	III

6.3.4 Determining stakeholders' strengths and weaknesses

6.3.4.1 Participants to determine stakeholders' strengths and weaknesses

The analysis of the responses of the research participants on this step of the project stakeholder management process as shown in Table 6.14 show that the participants to determine the strengths and weaknesses of the stakeholders are the client, the client PM, the consultants PMs, the sponsor/funder, the contractor and the end user. However, it is shown that the client and the client PM are the most recognised participants to determine the stakeholders' strengths and weaknesses. However, the client and client PM are the most widely recognised by all the participants across the cases and project phases. These are followed by the end user, recognised mostly at the post-construction phase and then the consultants PMs and contractor, recognised mostly at the construction phase. The least recognised and mostly at the pre-construction phase is the sponsor/funder. As a result, the concept of the project stakeholder map of the projects recognising the different stakeholder groups across the project phases are not considered by all the research participants. Further analysis of the organisational project documents showed no evidence of the existence and documentation of this process.

Although there is little consideration on understanding the participants to determine stakeholders' strengths and weaknesses in the stakeholder management process models in the extant literature as shown in Chapters 2 and 4, however, according to Moodley (2002), the process helps the management to understand how much the stakeholders can affect the project, the ways in which they can make their needs known, and the extent they can go to actualise those needs.

Table 6.14 Participants to determine stakeholders' strengths and weaknesses

Cases/Project phases		Participants					
		Client	Client PM	Consultants PM	Sponsor or Funder	End user	Contractor
A	Pre-construction	III, IV	III, IV	-	III	III	-
	Construction	II, V	II, V	II, V	-	-	II, V
	Post-construction	I	I	-	-	I	-
B	Pre-construction	I	I	-	I	-	-
	Construction	III, IV	III, IV	III, IV	-	-	III, IV
	Post-construction	II	II	-	-	II	-
C	Pre-construction	III, IV	III, IV	-	-	-	-
	Construction	V	V	V	-	-	V
	Post-construction	I, II	I, II	-	-	I, II	-
D	Pre-construction	I	I	-	I	I	-
	Construction	II	II	II	II	-	II
	Post-construction	III	III	-	-	III	-

The research participants' responses compared to the literature which show less consideration for the participants to determine stakeholders' strengths and weaknesses, however, paid less attention to the projects' stakeholder maps and spread to the project phases. Since the identification of project stakeholders' strategies are dependent on determination of the strengths and weaknesses of stakeholders (Cleland, 1988; Moodley, 2002), the implication of this lack of consistent consideration of all key stakeholder groups as participants to determine the strengths and weaknesses of stakeholders is ineffective management of stakeholders and improvement of project success.

6.3.4.2 Qualifications of participants to determine stakeholders' strengths and weaknesses

Despite the flaws observed above, however, the assessment of the responses of the research participants as shown in Table 6.15 recognises statutory domain role and technical competence as the most widely agreed qualifications to determine

stakeholders' strengths and weaknesses. These are followed by the position/years spent by the client PM in the organisation, which is not uniformly and consistently agreed by the research participants across the cases and project phases. Also, organisational project documents accessed showed non-existence and documentation of these, as the information in the documents were scanty and irrelevant.

Table 6.15 Analysis of qualifications of participants to determine stakeholders' strengths and weaknesses

Qualifications	**Cases/Project phases**											
	Case Study A			Case Study B			Case Study C			Case Study D		
	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const
Beneficiary	III	-	I	-	-	I	-	-	I, II	-	-	III
Statutory domain role	III, IV	II, V	I	I	III, IV	I	III, IV	V	I, II	I	II	III
Position/years spent in organisation	III, IV	-	-	I	III, IV	I	III, IV	-	I, II	I	II	III
Professional affiliation	III	-	I	-	-	-	-	V	-	-	-	-
Technical competence	IV	II, V	I	I	III, IV	I	III, IV	V	I, II	I	II	III
Educational	-	-	-	I	-	-	III	-	I	-	II	III
Automatic	III	II, V	I	-	-	-	-	V	-	I	II	-

Although there is no consideration in the stakeholder management process models in the extant literature about the qualifications of the participants to determine the strengths and weaknesses of stakeholders, the responses of the research participants have not demonstrated the understanding of the concept of qualification in this case. Thus, the implication of this is that unqualified participants might have been involved in this task, therefore affecting the effective management of stakeholders and subsequently, the improvement of project success.

6.3.4.3 Techniques of determining stakeholders' strengths and weaknesses

Analysis of the responses of the research participants from the case studies as shown in Table 6.16 reveal listening, brainstorming, meetings, questioning, regular inspection, engagement, participation, involvement, communication and observation as the techniques of determining stakeholders' strengths and weaknesses. Further analysis show meetings, involvement, brainstorming and participation as the most widely recognised techniques by the research participants across the cases and project phases. The least recognised techniques is questioning, followed by listening and communication. The assessment of the organisational project documents accessed showed non-existence and documentation of these techniques for reference.

The project stakeholder management process models in the extant literature as shown in Chapters 2 and 4 show no consideration for the techniques of determining project stakeholders' strengths and weaknesses. The responses of the research participants reveal some techniques, such as questioning, listening and regular inspection which could be viewed not to reflect the concept of techniques for determining stakeholders' strengths and weaknesses. The implication of lack of adequate techniques to determine the strengths and weaknesses of project stakeholders is ineffective stakeholder management and improvement of project success.

Table 6.16 Analysis of techniques of determining stakeholders' strengths and weaknesses

Techniques	**Cases/Project phases**											
	Case Study A			Case Study B			Case Study C			Case Study D		
	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const
Listening	III	II	I	-	-	II	-	-	I, II	-	-	III
Brainstorming	III, IV	-	I	I	III, IV	II	III, IV	-	II	I	-	III
Meetings	III, IV	II, V	I	I	III, IV	II	III, IV	V	I, II	I	II	III
Questioning	III	-	-	-	-	-	-	-	-	I	-	III
Regular inspection	-	II, V	I	-	III, IV	II	-	V	I, II	-	II	III
Engagement	III	-	I	I	IV	-	III, IV	V	II	I	-	-
Participation	III, IV	II	I	I	III	-	III, IV	-	-	I	II	III
Involvement	III	II, IV	I	I	III	II	IV	V	II	I	II	III
Communication	-	-	-	I	III, IV	II	IV	-	I, II	I	-	-
Observation	-	IV	I	-	III, IV	II	-	V	I, II	-	II	III

6.3.4.4 Outputs of determining stakeholders' strengths and weaknesses

It is obtained from the analysis of the responses of the research participants as shown in Table 6.17 that participation, support, non-resistance, loyalty, performance and cooperation are the strengths and otherwise are the weaknesses of the stakeholders to the projects. The most widely recognised strengths among the research participants across the cases and project phases are cooperation, participation, support and performance. Thus, lack of these imply the weaknesses of the project stakeholders. However, organisational project documents accessed and assessed to corroborate these contained scanty irrelevant information.

The guidance in the literature notes that, the strengths of the adversary stakeholders will be determined by understanding the availability and effective use of resources, political alliances, public support, quality of strategies, and dedication to members (Cleland, 1988). Also, the weaknesses of the stakeholders will emerge from information arising from the lack of political support, disorganisation and lack of coherent strategy, uncommitted and scattered membership, and unproductive use of resources.

Compared to the project stakeholder management process models and other bodies of knowledge in the literature as earlier shown in Chapters 2 and 4, the responses of the research participants, although not detailed, capture the concept of stakeholder strength and weakness. Consequently, the implication of this is the understanding of the kinds of support and opposition, which may imply inadequate information on the strengths and weaknesses of the stakeholders, therefore affecting the effective management of the stakeholders and improvement of project success.

Table 6.17 Analysis of outputs of determining stakeholders' strengths and weaknesses

Outputs	**Cases**											
	Case Study A			Case Study B			Case Study C			Case Study D		
	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const
Participation	III, IV	II, V	I	-	III, IV	II	IV	V	II	I	II	III
Support	III, IV	II	I	I	III, IV	II	III	-	I, II	I	-	III
Non- resistance	-	V	I	-	-	-	-	V	-	-	II	-
Loyalty	IV	-	-	-	-	-	-	V	-	I	-	-
Performance	III, IV	II, V	I	-	III, IV	II	III, IV	V	I, II	-	II	III
Cooperation	III, IV	II, V	I	I	III, IV	II	III, IV	V	I, II	I	II	III

6.3.5 Identifying stakeholders' strategies

6.3.5.1 Participants to identify stakeholders' strategies

The analysis of the responses of the research participants within and across the cases and project phases as shown in Table 6.18 reveal the client and the client PM as the most widely recognised participants to identify stakeholders' strategies. These are followed by the end users. Other participants recognised are the sponsor/funder, the contractor and the consultants PMs. However, the non-uniform and consistent recognition of all these participants within and across the cases and relevant phases narrows the wider concept of the composition of the participants. Furthermore, information in the available organisational project documents accessed and assessed showed no evidence to support the views of the research participants.

Table 6.18 Participants to identify stakeholders' strategies

Cases/Project phases		**Participants**					
		Client	Client PM	Consultants PM	Sponsor or Funder	End user	Contractor
A	Pre-construction	III, IV	III, IV	-	III	III	-
	Construction	II, V	II, V	II, V	-	-	II, V
	Post-construction	I	I	-	-	I	-
B	Pre-construction	I	I	-	I	-	-
	Construction	-	III, IV	III, IV	-	-	III, IV
	Post-construction	II	II	II	-	II	-
C	Pre-construction	III, IV	III, IV	-	-	-	-
	Construction	V	V	V	-	-	V
	Post-construction	I, II	I, II	-	-	I, II	-
D	Pre-construction	I	I	-	I	I	-
	Construction	II	II	II	II	II	II
	Post-construction	III	III	-	-	III	-

Although it has been observed that the stakeholder's strategy predicts the probable behaviour of the stakeholder (Cleland, 1988), there is no consideration in the literature about the individual or group that identify the stakeholders' strategies.

Compared to the project stakeholder management process models in the literature, the research participants' responses which reveal non-uniform and inconsistency in the recognition of the participants within and across the cases and relevant project phases have demonstrated inadequate understanding of the concept of participants to identify stakeholders' strategies. Therefore, the implication of this is that the right participants in the right project phases might not have been identified, thus, inappropriate stakeholder management strategies might have been developed which might have not achieved effective stakeholder management and improved project success.

6.3.5.2 Qualifications of participants to identify stakeholders' strategies

Analysis of the data as shown in Table 6.19 reveal statutory domain role and technical competence as the most widely recognised qualifications by the research participants within and across the cases and project phases to identify the stakeholders' strategies. Other qualifications recognised but not uniformly and consistently distributed among the research participants within the cases and project phases include position/years spent in organisation, educational knowledge, beneficiary position, automatic and professional affiliation. However, information from organisational project documents accessed and assessed to corroborate these were irrelevant and provided no evidence on the qualifications of participants to identify stakeholders' strategies.

There is little consideration in the project stakeholder management process models in the literature as shown in Chapters 2 and 4 about the qualifications of participants to identify the strategies of stakeholders. However, knowledge about the stakeholders as proposed by Mikkelsen and Riis (2007) and familiarity with the project deliverables and constraints and with the organisational structure and politics, as suggested by Bourne and Walker (2006) and Walker et al. (2008b) as considered in identifying the missions of project stakeholders may be useful in this case. This is because of the dependence of this process to the identification of the missions of stakeholders.

Table 6.19 Analysis of qualifications of participants to identify stakeholders' strategies

Qualifications	**Cases/Project phases**											
	Case Study A			Case Study B			Case Study C			Case Study D		
	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const
Beneficiary	III	-	I	-	-	II	-	-	I, II	I	-	III
Statutory domain role	III, IV	II, V	I	I	III, IV	II	III, IV	V	I, II	I	II	III
Position/years spent in organisation	III, IV	II, V	-	I	III, IV	II	-	-	I, II	I	II	III
Professional affiliation	III	-	I	-	-	-	III, IV	V	-	-	-	-
Technical competence	IV	II, V	I	I	III, IV	II	III, IV	V	I, II	I	II	III
Educational	-	-	-	-	III	II	III	-	-	-	II	III
Automatic	III	II	-	I	-	-	-	V	-	-	II	-

Although the responses of the research participants compared to the literature demonstrate recognition of some qualifications, however, their distribution among the research participants within and across the cases and project phases show non-importance among the participants as qualifications to identify stakeholders' strategies. The implication of this is that unqualified participants might have been involved and thus inadequate identification of stakeholders' strategies, ineffective management of stakeholders and non-improvement of project success.

6.3.5.3 Techniques of identifying stakeholders' strategies

The analysis of the responses of the research participants from the empirical studies as shown in Table 2.20 show that the techniques of identifying stakeholders' strategies include listening, brainstorming, meetings, regular inspection, engagement, participation, involvement, communication and observation. Among these, the most widely recognised by most research participants within and across the cases and project phases is meetings. This is followed by involvement, then participation. The responses of the research participants demonstrate lack of the appreciation of other techniques uniformly and consistently across the project phases which might have been useful for identifying the strategies of the stakeholders. Further analysis of organisational project documents to corroborate the views of the research participants reveal non-existence and documentation of these techniques, implying these are the individual positions of the research participants.

The review of the project stakeholder management process models in the extant literature reveal non consideration of the techniques of identifying stakeholders' strategies. Compared to the literature, although the research participants have demonstrated understanding of some techniques to identify stakeholders' strategies. however, non-uniform and inconsistency across the project phases might have affected the identification of the right strategies of the stakeholders, therefore affecting the effective management of stakeholders and improvement of project success.

Table 6.20 Analysis of techniques of identifying stakeholders' strategies

Techniques	**Cases/Project phases**											
	Case Study A			Case Study B			Case Study C			Case Study D		
	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const
Listening	III	II	I	-	III	II	-	-	I, II	I	-	III
Brainstorming	III, IV	-	I	I	-	II	III	-	II	I	-	III
Meetings	III, IV	II, V	I	I	III, IV	II	III, IV	V	II	I	II	III
Regular inspection	-	II, V	I	-	III, IV	II	-	V	I, II	-	II	III
Engagement	-	-	I	I	IV	II	III, IV	V	II	I	-	-
Participation	III, IV	-	I	I	III	-	III, IV	V	-	I	II	III
Involvement	III	II	I	I	III	II	IV	-	I, II	I	II	III
Communication	-	II, V	-	-	III, IV	-	-	-	I, II	I	-	-
Observation	-	V	I	-	IV	II	-	V	I, II	-	II	III

6.3.5.4 Outputs of identifying stakeholders' strategies

From the analysis of the responses of the research participants as shown in Table 6.21, it is difficult to differentiate the strategies of stakeholders from the outputs of the strengths and weaknesses of stakeholders. Thus, apart from compliance and interest, other outputs in this are similar to stakeholders' strengths and weaknesses. Consequently, the stakeholders' strategies include compliance, non-resistance, support, interest, performance and cooperation. Among these, the most widely recognised are cooperation, performance and support, while the least recognised is interest, followed by non-resistance and compliance. Furthermore, analysis of the information from the organisational project documents provided non-existence of evidence of these, to corroborate the views of the research participants.

The literature show that from the goals, objectives, and missions of the stakeholders, as well as their strengths, the strategies of the stakeholders can be identified (Cleland, 1988). Also, information about the plans the stakeholders have on using resources available to them, policies, procedures to be employed in using the resources, and the strategies to accomplish their end purpose will provide sufficient information for identifying the stakeholders' strategies.

Thus, from the above in the literature, understanding of the strengths and weaknesses of the project stakeholders the strategies of the stakeholder could be understood. However, the implication of not understanding the stakeholders' strategies is ineffective stakeholder management and unimproved project success.

Table 6.21 Analysis of outputs of identifying stakeholders' strategies

Outputs	**Cases**											
	Case Study A			Case Study B			Case Study C			Case Study D		
	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const
Compliance	III, IV	II, V	I	-	III, IV	II	-	V	-	-	II	III
Non- resistance	-	II	I	-	III, IV	-	-	V	-	-	II	-
Support	III, IV	-	I	I	III	II	III, IV	-	I, II	I	-	III
Interest	III	-	-	I	-	-	-	-	-	I	-	-
Performance	III, IV	II, V	I	-	III, IV	II	III, IV	V	I, II	-	II	III
Cooperation	III, IV	II, V	I	I	III, IV	II	-	V	I, II	I	II	III

6.3.6 Predicting stakeholders' behaviours

6.3.6.1 Participants to predict stakeholders' behaviours

Analysis of the data from the empirical studies as shown in Table 6.22 reveal the client and client PM topping the list of participants to predict stakeholders' behaviours. This shows all the research participants within and across the cases and project phases, except at the construction phase in Case Study B agreeing on these. Other participants recognised include the end user, the consultants PMs and contractor and the sponsor/funder in that order of recognition. This view of lack of equal recognition of the other participants demonstrates the narrow view of the research participants. Assessment of the available organisational project documents showed no evidence of the existence of this, as the documents accessed contained irrelevant information on this subject.

The project stakeholder management process models in the extant literature paid little consideration to the stakeholder map of projects on the participants to predict the behaviours of stakeholders. Only the project manager and the project team are considered to predict the project's stakeholders' behaviours (Cleland, 1988). Also, this shows no insights about the composition of the project team and the organisation of the project manager considered.

Table 6.22 Analysis of participants to predict stakeholders' behaviours

Cases/Project phases		Participants					
		Client	Client PM	Consultants PM	Sponsor or Funder	End user	Contractor
A	Pre-construction	III, IV	III, IV	-	III, IV	III	-
	Construction	II, V	II, V	II, V	-	-	II, V
	Post-construction	I	I	-	-	I	-
B	Pre-construction	I	I	-	I	-	-
	Construction	-	III, IV	III, IV	-	-	III, IV
	Post-construction	II	II	-	-	II	-
C	Pre-construction	III, IV	III, IV	-	-	-	-
	Construction	V	V	V	-	-	V
	Post-construction	I, II	I, II	-	-	I, II	-
D	Pre-construction	I	I	-	I	I	-
	Construction	II	II	II	II	II	II
	Post-construction	III	III	-	-	III	-

Although the research participants' responses compared to the literature recognise more participants, however, that is still narrow in terms of the spread across the cases and project phases, to predict stakeholders' behaviours. The implication of this to stakeholder management is that inadequate participants might have been involved in the process, therefore, affecting the understanding of the stakeholders' behaviours, thus, ineffective management of stakeholders and improvement of project success.

6.3.6.2 Qualifications of participants to predict stakeholders' behaviours

According to the result of the analysis of the responses of the research participants as shown in Table 6.23, the participants that predict stakeholders' behaviours qualify to do so mostly as a statutory domain role and as technically competent. Other qualifications include, due to position/years spent in organisation, being a beneficiary and educational qualification, and professional affiliation and automatic, in that order of recognition.

However the organisational project documents accessed and assessed to verify and corroborate these revealed non-existence of relevant information.

There is little consideration of the participants to predict the behaviours of project stakeholders in the project stakeholder management process models in the literature. The only insight on this in the literature suggests that, understanding of external stakeholder strategy predicts stakeholder behaviour (Cleland, 1988).

Table 6.23 Analysis of qualifications of participants to predict stakeholders' behaviours

Qualifications	**Cases/Project phases**											
	Case Study A			Case Study B			Case Study C			Case Study D		
	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const
Beneficiary	III	-	I	-	-	II	-	-	I, II	I	-	III
Statutory domain role	III, IV	II, V	I	I	III, IV	II	III, IV	V	I, II	I	II	III
Position/years spent in organisation	III, IV	II, V	-	I	III, IV	II	III, IV	-	I, II	I	II	III
Professional affiliation	III	-	I	-	-	-	III, IV	V	I	-	-	-
Technical competence	IV	II, V	I	I	III, IV	II	III, IV	V	I, II	I	II	III
Educational	-	-	-	-	III	II	-	-	I	I	II	III
Automatic	III	II, V	-	I	-	-	-	V	-	-	II	-

Comparing the literature with response of the research participants show wider recognition of qualifications by the research participants than in the literature. However, the lack of uniform and consistent spread of the participants from the stakeholder map of the projects has affected the wide and deep understanding of the concept of qualification by the research participants. The implication of this is not involving the qualified participants who may affect the effective management of stakeholders and improvement of project success.

6.3.6.3 Techniques of predicting stakeholders' behaviours

The analysis of the data from the empirical studies on this as shown in Table 6.24 show that the techniques of predicting stakeholders' behaviours involve listening, meetings, questioning, regular inspection, engagement, participation and communication. Among these techniques, all the research participants within and across the cases and project phases recognise meetings as the most widely used technique. Other techniques following this in order of less recognition include engagement, regular inspection, participation and communication, listening and questioning. However, all the organisational project documents accessed and analysed contained no information about the techniques of predicting stakeholders' behaviours.

The extant literature provide limited insights on the techniques of predicting project stakeholders' behaviours. The only insight by Cleland (1988) suggests impact assessment process for predicting stakeholders' behaviours.

Compared with the insight from the literature, the response of the research participants although wider, show limited techniques to predict stakeholder behaviour across the project phases. The implication of this is limited prediction of the behaviours of the project stakeholders, therefore ineffective management of stakeholders and unimproved project success.

Table 6.24 Analysis of techniques of predicting stakeholders' behaviours

Techniques	**Cases/Project phases**											
	Case Study A			Case Study B			Case Study C			Case Study D		
	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const
Listening	III	-	I	-	-	II	-	-	II	I	-	III
Meetings	III, IV	II, V	I	I	III, IV	II	III, IV	V	II	I	II	III
Questioning	III	-	-	-	-	-	-	-	-	I	-	-
Regular inspection	-	II, V	I	-	III, IV	II	-	V	II	-	II	III
Engagement	III, IV	II	I	I	IV	II	III, IV	V	II	I	-	-
Participation	III, IV	-	I	I	III	-	III, IV	-	-	I	II	III
Communication	III, IV	II, V	I	I	III, IV	II	-	-	I, II	I	-	-

6.3.6.4 Outputs of predicting stakeholders' behaviours

Analysis of the data gathered on this from the case studies as shown in Table 6.25 indicate the stakeholders' behaviours as loyalty, compliance, resistance, support, and performance. Further assessment of the outputs show support, as the most widely recognised stakeholders' behaviour, except at the pre-construction phase in Case Study C. Other behaviours in descending order of recognition included cooperation, compliance, performance, loyalty and resistance. However, these have not been reflected in the organisational project documents accessed and assessed to verify and corroborate as the practice and organisational position.

Although no specific behaviours have been mentioned in the literature, understanding of how the stakeholders can use the resources available to them to affect the project; how the intervener stakeholders can delay or stop the project by legal means; the use of petition to stop the project; and ability to influence future legislation as identified by Cleland (1988) provide the bases to predict the stakeholders' behaviours.

Compared to the literature, the response of the research participants rather show the behaviours of the stakeholders, although mostly sparsely recognised. The implication of this is that the stakeholders' behaviours are known, which may affect effective stakeholder management and improvement of project success.

Table 6.25 Analysis of outputs of predicting stakeholders' behaviours

Outputs	**Cases**											
	Case Study A			Case Study B			Case Study C			Case Study D		
	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const
Loyalty	-	II	-	-	-	II	-	-	II	-	II	-
Compliance	III	II, V	I	-	III, IV	II	-	V	II	I	II	III
Resistance	-	-	I	-	-	-	-	-	-	-	-	III
Support	III, IV	II, V	I	I	III, IV	II	-	V	I, II	I	II	III
Performance	III, IV	II, V	I	-	III, IV	II	III, IV	V	-	-	II	-
Cooperation	III, IV	II, V	I	I	III	-	-	V	I, II	I	II	III

6.3.7 Implementing stakeholders' management strategies

6.3.7.1 Participants to implement stakeholders' management strategies

Although non-uniformly and inconsistently distributed, the responses from the research participants as shown in Table 6.26 show the participants to implement stakeholders management strategies as the client, the client PM, the consultants PMs, the sponsor/funder, the contractor and the end user. All the research participants within and across the cases at all the project phases recognise the client PM as a participant in this process. This is followed by the client except client at the construction phase in Case Studies A, B and C, the end user and the contractor. The least considered participant are the consultants PMs. However, further analysis of organisational project documents showed non-existence of these to verify and corroborate the positions of the research participants.

There is little consideration in the project stakeholder management process models in the extant literature on the participants to implement project stakeholders' management strategies. The available guidance places this responsibility on the project manager and project team (Cleland, 1988; Karlsen, 2002; Moodley, 2002). However, the notion of only the project manager narrows the concept of stakeholder map.

Table 6.26 Participants to implement stakeholders' management strategies

Cases/Project phases		Participants					
		Client	Client PM	Consultants PM	Sponsor or Funder	End user	Contractor
A	Pre-construction	III, IV	III, IV	-	III	III	-
	Construction	-	II, V	II, V	-	-	II, V
	Post-construction	I	I	-	-	I	I
B	Pre-construction	I	I	-	I	-	-
	Construction	-	III, IV	III, IV	-	-	III, IV
	Post-construction	II	II	-	-	II	-
C	Pre-construction	III, IV	III, IV	-	III, IV	-	-
	Construction	-	V	V	-	-	V
	Post-construction	I, II	I, II	-	-	I, II	-
D	Pre-construction	I	I	-	I	I	-
	Construction	II	II	-	II	-	II
	Post-construction	III	III	-	-	III	-

Although more participants have been recognised by the research participants compared to the literature, both could be considered to be narrow and lack in the appreciation of the concept of projects' stakeholder maps to determine the participants. This is because, while the literature narrow the participants to the project manager and unspecified project team, the research participants recognised more participants who do not cut across the project phases. The implication of this is lack of involvement of key participants and across the project phases, therefore compromising effective stakeholder management and improvement of project success.

6.3.7.2 Qualifications of participants to implement stakeholders' management strategies

Analysis of the data on this as shown in Table 6.27 show that participants qualify as a result of their statutory domain role, beneficiaries of the project as users, position/years spent in the organisation, professional affiliation, technical competence, educational qualification and automatically being the client or project managers. Among the

qualifications, all the research participants within and across the cases and project phases have recognised technical competence. This was followed by statutory domain role and position/years spent in the organisation in that order. The least recognised qualification was the professional affiliation. However, further analysis of organisational project documents contained no information on this to verify and corroborate the views of the research participants, therefore these could be seen as their personal individual positions.

Table 6.27 Analysis of qualifications of participants to implement stakeholders' management strategies

Qualifications	**Cases/Project phases**											
	Case Study A			Case Study B			Case Study C			Case Study D		
	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const
Beneficiary	IV	-	I	-	-	II	-	-	I, II	I	-	III
Statutory domain role	III, IV	II, V	I	I	III, IV	II	-	V	I, II	I	II	III
Position/years spent in organisation	III, IV	II, V	-	I	III, IV	II	III, IV	-	I, II	I	II	III
Professional affiliation	IV	-	I	-	-	-	-	V	I	-	-	-
Technical competence	III, IV	II, V	I	I	III, IV	II	III, IV	V	I, II	I	II	III
Educational	-	-	-	-	III	II	III	V	I	I	II	III
Automatic	III	II, V	-	I	-	-	III, IV	V	-	-	II	-

The project stakeholder management process models in the extant literature in Chapters 2 and 4 provide no insights on the qualification of participants to implement stakeholders' management strategies.

Compared to the literature, the research participants demonstrated knowledge of some qualifications, although not uniformly and consistently recognised across the projects' phases. Thus, these could be considered narrow for implementation of stakeholders' management strategies. Consequently, this could have the implication of not involving the right participants which may have negative implications for effective management of stakeholders to improve project success.

6.3.7.3 Techniques of implementing stakeholders' management strategies

The analysis of the responses of the research participants on this as shown in Table 6.28 indicate the techniques as observation, supervision, regular inspection, engagement, participation and communication. Within and across the cases, the technique recognised by all the research participant but one each at the pre-construction and construction phases in Case Studies A and C respectively is involvement. However, observation and supervision were not recognised at the pre-construction phase across the cases. The least recognised technique by the research participants within and across the cases and project phases is communication. Further analysis of organisational project documents to verify and corroborate these reveal irrelevant information.

Several techniques exist in the extant literature to implement project stakeholders' management strategies. According to Savage et al. (1991), there are four strategies which include involvement, monitoring, defending, and collaborating, developed based on the typology of project stakeholders. Cleland (1988) suggests organisational policy, action plans, procedures, and the suitable allocation of supporting resources to make the process continuous. Karlsen (2002) suggests informing and involving the supportive stakeholders in relevant issues. Thus, encouraging cooperation potential to a maximum extent. Other stakeholders such as marginal and non-supportive stakeholders are proposed to be monitored and managed by defensive strategy or kept satisfied at all times respectively. Mixed blessing stakeholders may be managed through collaboration, based on mutual trust which must be beneficial for both parties.

Table 6.28 Analysis of techniques of implementing stakeholders' management strategies

Techniques	**Cases/Project phases**											
	Case Study A			Case Study B			Case Study C			Case Study D		
	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const
Observation	III	II, V	I	-	III, IV	II	-	V	I, II	-	II	III
Supervision	IV	II, V	I	-	III, IV	II	-	V	I, II	-	II	III
Regular inspection	-	II, V	I	-	III, IV	II	-	V	I, II	-	II	III
Engagement	-	-	I	I	IV	-	III, IV	-	I	I	-	-
Participation	III, IV	II, V	I	I	III	-	III, IV	-	-	I	II	III
Involvement	III	II, V	I	I	III	II	III, IV	V	I, II	I	II	III
Communication	-	-	-	-	III, IV	-	-	-	I, II	I	-	-

Thus, compared to the extant literature, the perspective of the research participants on this is not detailed and diverse in strategies. Consequently, the implication of this might have caused ineffective stakeholder management strategies and poor improvement of project success.

6.3.7.4 Outputs of implementing stakeholders' management strategies

According to the analysis of the responses of the research participants on the implementation strategies for stakeholder management as shown in Table 6.29 indicate that quality project, satisfaction, timely completion, profit/cost effective, performance and cooperation constitute the implementation strategies for stakeholders' management. Among these implementation strategies, satisfaction and cooperation are the wholly recognised strategies by all the research participants within and across the cases and project phases. These are followed by quality and performance in that order. The least recognised strategy is timely completion. However, organisational project documents accessed and assessed showed no evidence of these.

Limited insights in the extant literature showing implementation strategies for project stakeholder management exist. According to Cleland (1988), once the implementation strategies are operational, the project team should ensure:

- The potential impact of both the supportive and adverse stakeholders on the project outcome is fully appreciated by the participants.
- The management of the project review meetings to ensure that stakeholder assessment is an integral part of determining the project status.
- Maintain contact with key external stakeholders to improve stakeholder perception of the project and their probable strategies.
- The explicit evaluation of probable stakeholder response to major project decisions.
- Provision of on-going, up-to-date status report on stakeholder status for developing and implementing project strategy.
- Security of sensitive project information to avoid detrimental use by the adverse stakeholders.

Also, the strategy for the management of project stakeholders include the engagement of stakeholders (Bourne and Walker, 2006; Walker et al., 2008b).

Table 6.29 Analysis of outputs of implementing stakeholders' management strategies

Outputs	**Cases**											
	Case Study A			Case Study B			Case Study C			Case Study D		
	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const	Pre-Const	Const	Post-Const
Quality project	III, IV	II, V	-	I	III, IV	II	III, IV	V	I	I	II	III
Satisfaction	III, IV	II, V	I	I	III, IV	II	III, IV	V	I, II	I	II	III
Timely completion	-	II, V	-	-	III, IV	II	-	V	-	-	II	-
Profit/cost effective	-	II, V	-	-	III, IV	II	-	V	-	-	II	III
Performance	III, IV	II, V	I	-	III, IV	II	-	V	I, II	-	II	III
Cooperation	III, IV	II, V	I	I	III, IV	II	III, IV	V	I, II	I	II	III

Although compared to the literature, the responses of the research participants show what are termed implementation strategies for project stakeholder management according to the research participants. However, these do not reflect the concept of implementation strategies for stakeholder management. The implication of this is the application of wrong strategies for effective management of stakeholders and improvement of project success.

6.4 Summary of Practice and Design Criteria for Improvement System

The analysis of the practice on project stakeholder management process from all the case studies reveal:

- Lack of broad and deep understanding/knowledge of the basic concepts of project and project stakeholder management by the research participants.
- Inadequate understanding/knowledge of important information on/about the projects the research participant were interviewed on.
- Nonexistence of formal project stakeholder management processes. The concept of project stakeholder management process as understood by the research participants (PM teams) was in actual sense, the management of the physical assets. Also, the analysis of the response of the PM teams on the issues considered to increase the understanding of the project stakeholder management process to improve effective process reveal non-appreciation. These issues, which include the participants and their qualifications in the stakeholder management process as well as the techniques and outputs of the stakeholder management process, as viewed by the research participants implied the management of the physical assets of the projects rather than the management of the stakeholders.
- That all the organisational project documents accessed and analysed contained scanty and irrelevant information to substantiate the views of the participants.

As a result of the above, the competence of the PM teams to effectively manage projects and project stakeholders due to lack of broad and deep understanding/knowledge of the basic concepts of project and project stakeholder management is weak. Secondly, their inadequate understanding/knowledge of the projects' information puts the success of the projects at risk because they could have had no objectives to pursue to measure success.

Thirdly, lack of formal project stakeholder management process for guidance means each PM team member could have been managing the project stakeholders based on their discretion and intuition without synergy in the organisations.

Thus from the above, the practice of project stakeholder management across the case studies could be argued to be weak. The implications of these is ineffective project and project stakeholder management, thus, lack of project success. Therefore, the design criteria for improvement of the system needs to consider recommendations for improvement of the project management knowledge and competence of the PM teams. Secondly, a formal, systematic and practical stakeholder management process considering the participants and their qualifications in the stakeholder management processes and the techniques and outputs of the stakeholder management processes to be applied across the project life cycle by the PM teams needs to be considered for recommendation. Thirdly, a project information/data management system for the documentation of project information/data for the reference and guidance of the PM teams and other stakeholders on the projects needs to be recommended.

6.5 Chapter Summary and Conclusion

The chapter presented the analysis of the findings on the practice of project stakeholder management from the empirical studies. This involved the assessment of the existence of project stakeholder management process. In addition to assessing the existence of stakeholder management process, the participants and their qualifications in the stakeholder management process, as well as the techniques and outputs of the stakeholder management process were evaluated. These were undertaken by analysing the responses of the research participants on these as well as the accessed organisational project documents for corroboration and verification compared to extant literature and body of knowledge using NVivo. From the analysis, there was no evidence of the existence of formal project stakeholder management process in the case studies. Also, the inconsistencies shown by the research participants' responses on the participants and their qualifications in the stakeholder management process, as well as the techniques and outputs of the stakeholder management process further confirmed lack of systematic project stakeholder management process. In addition, organisational project

documents accessed and analysed on these revealed no-existence and non-documentation of the information supplied by the research participants.

Thus, the findings show weaknesses in the practice of project stakeholder management in the public sector construction project management in Nigeria. Therefore, this has informed the need for an integrated framework which should include project stakeholder management process considering participants and their qualifications in the stakeholder management process, as well as the techniques and outputs of the stakeholder management process; project management knowledge areas and competences requirements for project management teams; and PMIS, to improve stakeholder management and facilitate project success. The following chapter presents the development and evaluation of the recommended integrated framework.

Chapter 7 Integrated Framework for Stakeholder Management in Nigerian Public Sector Projects

This chapter presents the development of the integrated framework recommended in Chapter 6 for the improvement of project stakeholder management in the public sector in Nigeria. The need for the integrated framework which is justified from the critical review of the extant literature and research methods on project and stakeholder management as presented in Chapters 2, 3, and 4, and the analysis of the empirical studies data (presented in Chapter 5) in Chapter 6. The integrated framework developed describes the concepts, methods and processes for the effective management of project stakeholders, to improve project success.

It is envisaged that the integrated framework developed, will provide a practical approach to the management of project stakeholders. Also, the framework will be useful at both the project and organisational levels. While some of the principles in the framework may be generic to any project, the application beyond the Nigerian public sector, especially the cases must be made with caution. Although the public sector environments are diverse, however, the framework is expected to be flexible enough to be tailored for different project situations in the public sector. Moreover, since project stakeholder management is a general requirement for all projects and organisations.

The remaining parts of the chapter are presented as described as follows:

- Section 7.1 describes the concepts and development of the integrated framework;
- Section 7.2 describes the integrated framework;
- Section 7.3 evaluates the integrated framework; and
- Section 7.4 is the chapter summary which provides the conclusion to the chapter.

7.1 Concepts and Development of the Integrated Framework

As a result of the weaknesses revealed in the practice of project stakeholder management in the public sector in Nigeria, an integrated framework for effective

project stakeholder management was necessary. To increase the understanding and application of the process of project stakeholder management, the integrated framework needs to consider issues such as, participants in the stakeholder management processes; qualifications of participants in stakeholder management; techniques of stakeholder management; outputs of the stakeholder management process, and documentation of project information/data. The proposed integrated framework needs to be applicable across the phases of a project's life cycle.

Figure 7.1 below shows the summary of the concepts of the integrated framework (or the design criteria for the framework). These include project management knowledge and competence, project stakeholder management process, and project documentation. All of these are designed to take place at the same time across the project life cycle.

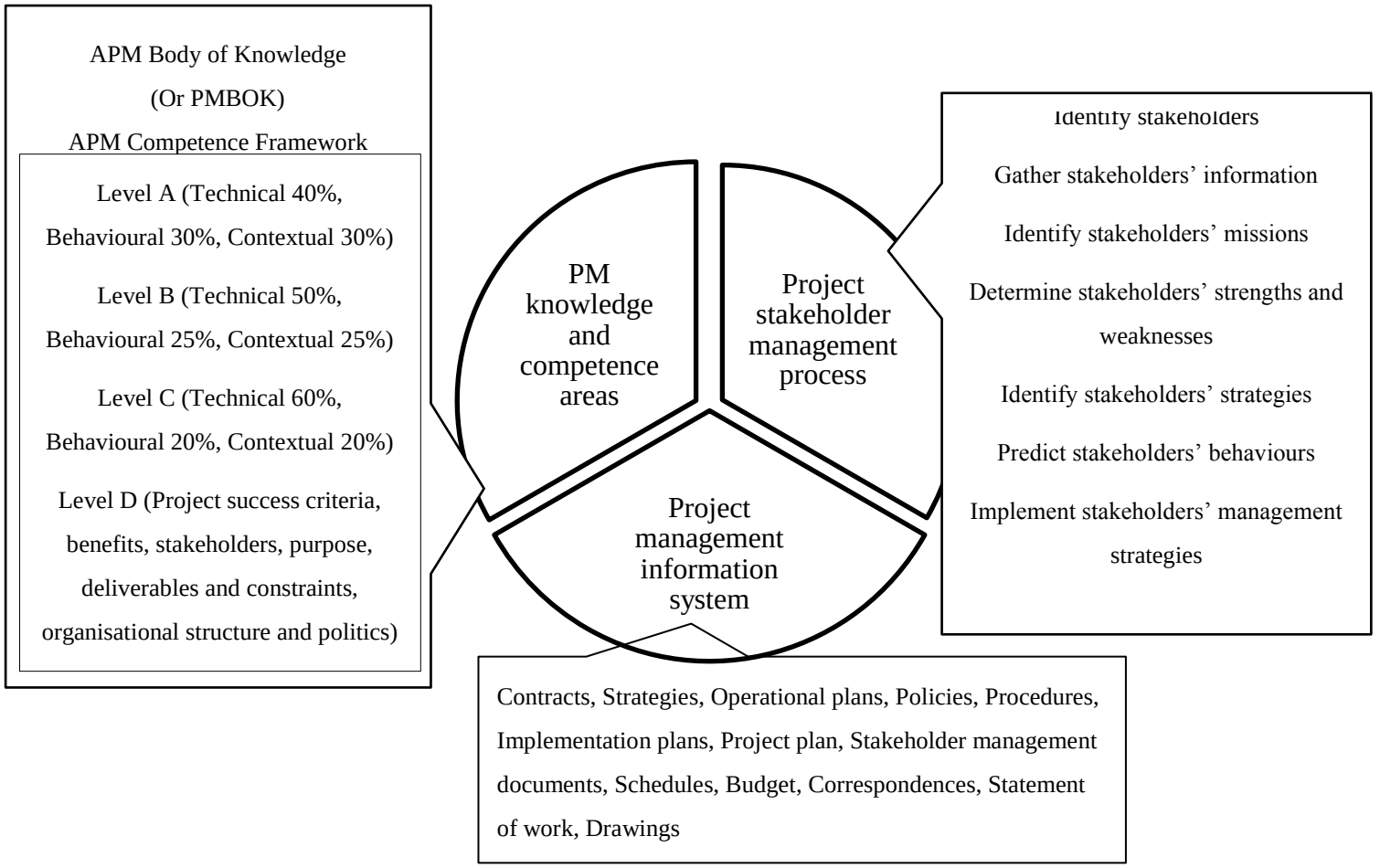

Figure 7.1 Concept of key components of integrated framework

7.1.1 The project stakeholder management process in integrated framework

To adopt a project stakeholder management process for the framework, a literature review of the existing project stakeholder management process models was done in Sections 2.4 and 4.3 in Chapters 2 and 4 respectively. From the review, a project stakeholder management process model by Cleland (1986) and Cleland and Ireland (2002) as adopted for the conceptual model and which has been repeatedly proposed in 1988 and 1998 and 2007 respectively (see Tables 2.7 and 2.8 and Figure 4.2) is adopted as shown in Figure 7.2 below.

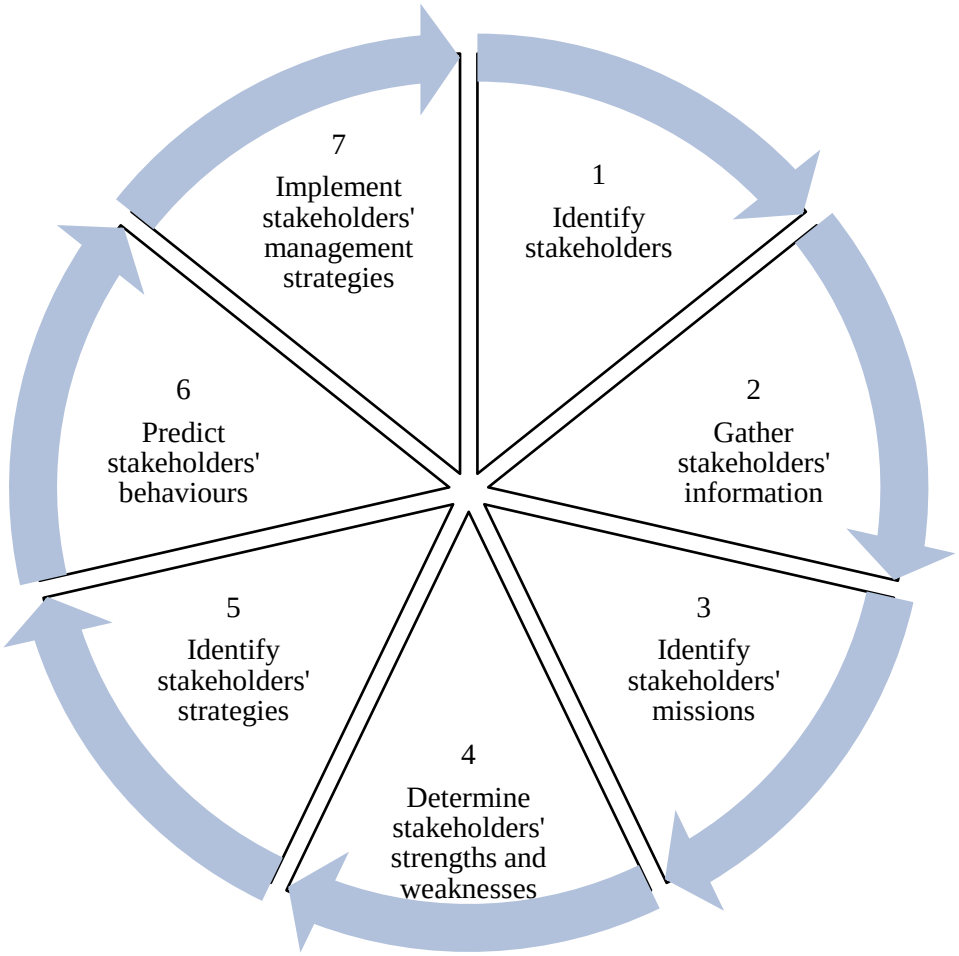

Figure 7.2 Project stakeholder management process in integrated framework

The process as shown in Figure 7.2 above has the identification of the project stakeholders as the first step in the process and the implementation of project

stakeholders' management strategies as the last step in a cycle. The argument for the adoption of this model is as stated in Section 4.3.1, as it is designed to be simple and efficient for practical application, to ensure effective management of project stakeholders.

As earlier stated, to increase the understanding of the process of project stakeholder management, this research argues for the consideration of issues such as, the participants in the stakeholder management processes; qualification of participants in stakeholder management; techniques of stakeholder management; and outputs of the stakeholder management process – all of which receive little/no attention in current literature about, and practice of, stakeholder management. These issues are to be considered across every step of the project stakeholder management process.

7.1.2 The project life cycle

From the review of project life cycle phases in Section 2.3.2 and the arguments in Section 4.3.2, this research adopts the three-phase project life cycle as shown in Figure 7.3 below. The phases in the project life cycle include pre-construction, construction, and post-construction. The choice of this project life cycle is informed by its simplicity, and at the same time ensuring that the phases mark major points (or stages) in a project life cycle where major decisions on the project are taken, as stated earlier in Section 4.3.2.

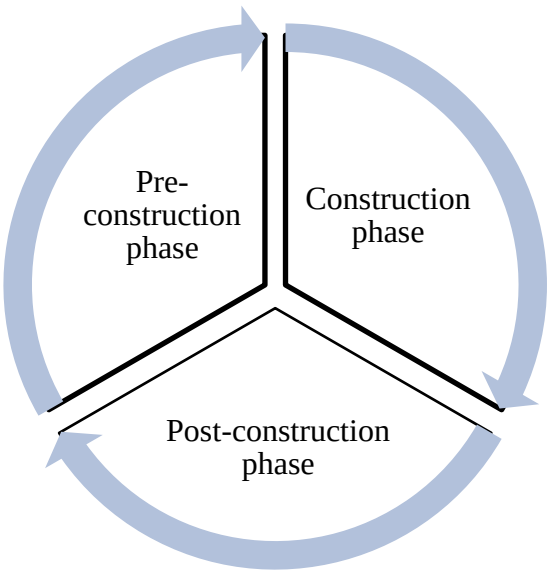

Figure 7.3 Project life cycle for project stakeholder management

7.1.3 Project management information system (PMIS)

The results and analyses of the practice of project stakeholder management from the empirical studies as shown in Chapters 5 and 6 show poor systems of documentation of project information/data. Consequently, there were little or no information to refer to on most projects. These include information on the projects such as cost, duration, performance measurements, and stakeholders' satisfaction reports. As a result, a PMIS as shown in Figure 7.4 is recommended for the documentation and management of project information.

According to Cleland and Ireland (2007), PMIS is a single store of information to facilitate the collection and recovery of key data at any time, such as during planning, project implementation, and post-project activities. As a store of knowledge, plans, practices, procedures, standards, guidelines, and methodologies are readily available to consult prior to making a decision or taking an action. It is populated with such information as the project plan, including all its subordinate documents, schedules, budget, correspondence, specifications, statement of work, and drawings.

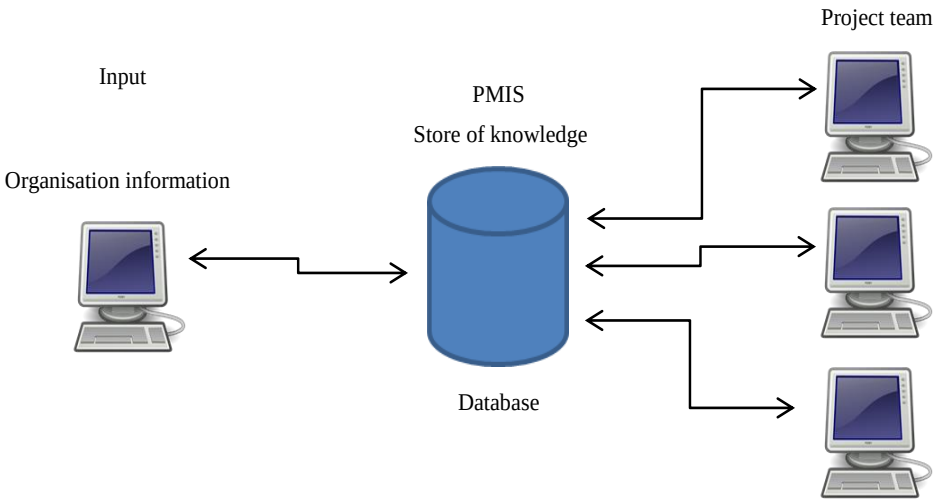

Figure 7.4 Project management information system
Source: Cleland and Ireland (2007)

7.1.4 Project management knowledge/competence for project and stakeholder management teams in integrated framework

One of the key findings from the analysis of the empirical data as shown in Section 5.2.2 was the lack of wide and deep understanding/knowledge of the concepts of project and stakeholder management by the research participants. As a result, this research argues that, for the efficient and effective management of projects and project stakeholders, project management teams require some minimum level of knowledge and competence. Consequently, this research aligns with the APM and PMI bodies of knowledge by Association for Project Management (1995), Association for Project Management (2000), Association for Project Management (2006) and Project Management Institute (1996), Project Management Institute (2000), Project Management Institute (2004), Project Management Institute (2008), and Project Management Institute (2013), all of which have provided guidance on project management knowledge areas covering wide and deep areas. In addition, this research adopts the APM competence framework by Association for Project Management (2008) on competence requirements for various levels of project management teams.

Table 7.1 below highlights the project management knowledge areas and competences for qualification of participants in stakeholder management at various levels of project management teams adopted by this research. The table shows the different competence levels in the project management bodies of knowledge and their anticipated equivalents for the participants in stakeholder management in the case studies, indicating the knowledge/competence required at the respective levels, as well as the ratio of the knowledge required. These provide guide for the project and stakeholder management teams (or participants) on different levels of knowledge and competence for efficient and effective management of projects and stakeholders on their projects.

Table 7.1 Participant project management knowledge/competence for project stakeholder management

Participant	Competence Level	Project Management Knowledge requirement/Competence	Means of acquisition
Top management (Director, Deputy Director)	Level A (Association for Project Management, 2008)	Interpersonal Skills (Project Management Institute, 2004; Project Management Institute, 2008) or Behavioural Competence (Association for Project Management, 2008); General Management Knowledge and Skills (Project Management Institute, 2004; Project Management Institute, 2008) or Contextual Competence (Association for Project Management, 2008); Project Management Body of Knowledge (Project Management Institute, 2004; Project Management Institute, 2008) or Technical Competence (Association for Project Management, 2008); Application Area Knowledge, Standards and Regulations; Understanding the Project Environment (Project Management Institute, 2004; Project Management Institute, 2008)	Formal educational training and continuous professional development training (technical (40%); behavioural (30%); and contextual (30%))
Middle management (Chief, Principal professional)	Level B (Association for Project Management, 2008)	Interpersonal Skills (Project Management Institute, 2004; Project Management Institute, 2008) or Behavioural Competence (Association for Project Management, 2008); General Management Knowledge and Skills (Project Management Institute, 2004; Project Management Institute, 2008) or Contextual Competence (Association for Project Management, 2008); Project Management Body of Knowledge (Project Management Institute, 2004; Project Management Institute, 2008) or Technical Competence (Association for Project Management, 2008); Application Area Knowledge, Standards and Regulations; Understanding the Project Environment (Project Management Institute, 2004; Project Management Institute, 2008)	Formal educational training and continuous professional development training (technical (50%), behavioural (25%), and contextual (25%))
Bottom management (Senior professional)	Level C (Association for Project Management, 2008)	Interpersonal Skills (Project Management Institute, 2004; Project Management Institute, 2008) or Behavioural Competence (Association for Project Management, 2008); General Management Knowledge and Skills (Project Management Institute, 2004; Project Management Institute, 2008) or Contextual Competence (Association for Project Management, 2008); Project Management Body of Knowledge (Project Management Institute, 2004; Project Management Institute, 2008) or Technical Competence (Association for Project Management, 2008); Application Area Knowledge, Standards and Regulations; Understanding the Project Environment (Project Management Institute, 2004; Project Management Institute, 2008).	Formal educational training and continuous professional development training (technical (60%), behavioural (20%), and contextual (20%))
Non-professional participant (University Council project committee, end user)	Level D (Association for Project Management, 2008)	Project objectives of time, cost, scope, quality/specification, performance; project stakeholders; project benefits; project purpose. In addition, participants need to be familiar with the project deliverables and constraints, and with the organisational structure and politics.	Workshops, symposia and seminars

7.2 The Integrated Framework

This research aligns with the common and internationally recognised project management bodies of knowledge and methodology (APM, PMBOK and PRINCE2). The review of these guides and methodology show that the principles of PRINCE2 project management method and the APM and PMBOK knowledge areas support the requirements of an integrated framework for the management of project stakeholders argued in this research. Also, it is observed that PRINCE2 and a body of knowledge (BoK) are highly complementary (Office of Government Commerce, 2009b). While PRINCE2 provides the support for a project management methodology, BoK provides the knowledge areas to give project managers competencies. In other words, while PRINCE2 provides a framework of what needs to be done, by whom and by when, the BoK provides a range of techniques of how those things can be done.

The choice of a whole life project life cycle for the integrated framework for the management of project stakeholders aligns with the argument in PRINCE2 (as an integrated project management method) applied to manage a project from start to finish (Office of Government Commerce, 2009b). Also, it is stated that PRINCE2 provides a project management method that can be applied regardless of project scale, type, organisation, geography or culture (Office of Government Commerce, 2009b). This is possible because PRINCE2 principles are characterised as universal, thus applicable to every project; self-validating, as proven in practice over many years; and empowering, giving practitioners of the method added confidence and ability to influence and shape how the project will be managed. In addition, PRINCE2 provides themes that can be integrated which describe the aspects of the project management that must be addressed continually by any project manager, to be professional. Furthermore, the process-based approach for project management of PRINCE2 provides the set of activities required to direct, manage, and deliver a project successfully.

The principles of PRINCE2 project management method are based on continued business justification, learning from experience, defined roles and responsibilities, managing by stages, managing by exception, focus on products, and tailor to suit the project environment (Office of Government Commerce, 2009b). PRINCE2 processes include pre-project, where an idea or need for a project arises; initiation stage, that once a decision to go ahead with the project is taken, is planned in detail, to obtain funding

and controls defined to ensure that the project proceeds according to the wishes of those paying for the project and users of the project deliverables. The processes also include subsequent delivery stages, where day-to-day control on a stage-by-stage basis by the project manager according to the delegation of the project board are performed; and final delivery stage, where the project board needs to be satisfied that the recipients of the project's products are in a position to own and use them on an on-going basis, are structured to achieve specific objectives.

The principles of PRINCE2 shown in the above paragraph and the knowledge areas and competence provided by APM and PMBOK fit into the argument for and requirements of an integrated framework for project stakeholder management. These have shown the relevance of project stakeholder management process across the project life cycle, the improvement of the knowledge and competence of the participants in the project stakeholder management process, and design of project management information system. On the bases of the results and analysis of the empirical study as captured in Chapters 5 and 6 and the above, Figure 7.5 below shows the components/features of the integrated framework across the project life cycle. While the element of stakeholder management process fills the lack of formal stakeholder management process in the organisations; the consideration of participants in the stakeholder management processes, qualifications of participants in stakeholder management, techniques of stakeholder management, and outputs of project stakeholder management processes to the stakeholder management process ensure the consideration of input and output elements for every process to ensure effective stakeholder management; and PMIS for the documentation of project information/data to ensure documentation of project information/data for reference and learning, which was lacking in the organisations studied.

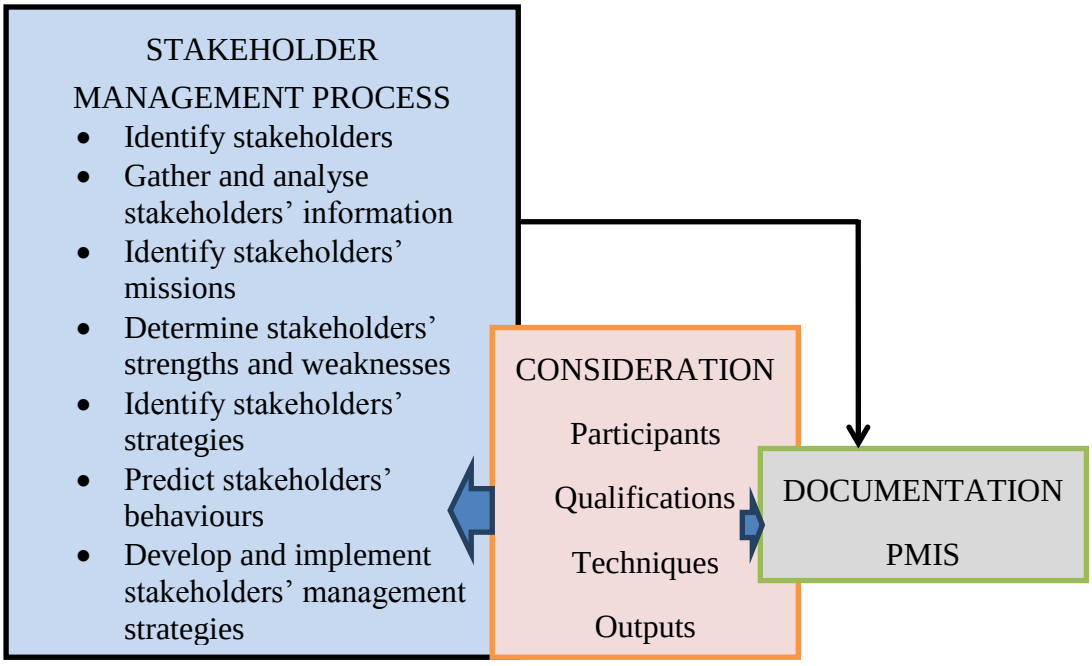

Figure 7.5 Project stakeholder management concepts for integrated framework

7.2.1 Process for project stakeholder management

The process for the management of the project stakeholders in the integrated framework takes into consideration the project stakeholder management process across the three project life cycle phases including pre-construction, construction, and post-construction adopted for this research. The process in the integrated framework is as shown in Figure 7.6 below, which shows at every phase of the project life cycle, the project stakeholder management process considering the input/output elements in every process for effective and better understanding of the process and project documentation.

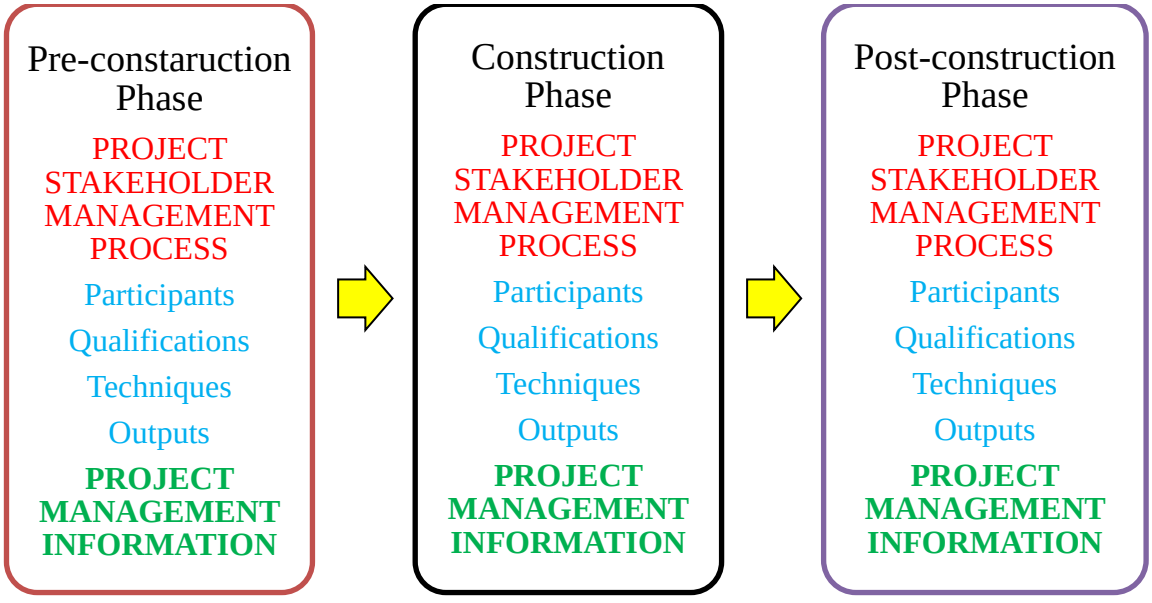

Figure 7.6 Process of application of integrated framework

Figure 7.7 below shows the integrated framework for project stakeholder identification at the pre-construction phase proposed for the case studies in this research. It is proposed that project stakeholders can be effectively identified by qualified participants as described in Section 7.2.1.1 and Section 7.2.1.2 and Table 7.1, using the techniques described in Section 7.2.1.3. While the outputs expected are as described in Section 7.2.1.4, would include the sponsor(s)/funder(s), the client, the internal/external end users depending on the project, the client PM, the consultants PMs, the project's surrounding communities/indirect impact influencers, stakeholder register, classification according to interest, influence, involvement in project; register with stakeholder identification information as name, organisational position, location, role in project, contact; assessment information as major requirements, main expectations, potential influence in project, project phase with most interest; stakeholder classification as internal/external, supporter/neutral/resistor; stakeholders that initiate/conceptualise project, determine purpose/use of project, determine objectives of project and/or cost, time, and quality/specifications; identified participants and their qualifications, and techniques of identifying stakeholders; the project management information/data expected and documented as shown in Figure 7.7 are as described in Section 7.2.1.5.

The project management information/data for documentation at the pre-construction phase will include, according to the Office of Government Commerce (2009b), the idea or need for the project; the reasons for the project, the benefits expected, and the associated risks; the scope of the project and the products to be delivered; how and when the project's product will be delivered and the cost. Other information/data include those involved in the project decision making; how the quality required will be achieved; how baselines will be established and controlled; how risks, issues, and changes will be identified, assessed and controlled; how progress will be monitored and controlled; who needs information, in what format, and at what time.

According to Association for Project Management (2008), the pre-construction phase is the first phase in the project life cycle where the need, opportunity or problem is confirmed, the overall feasibility of the project is considered and a preferred solution identified. Also, this is the phase that the business case for the project is produced. Activities at the pre-construction phase in this framework include initiation/conception of the project to the final design of the project. Thus, this phase includes initiation/conception of the project, appraisal, and definition and design. Also at this stage of the project, the purpose/use and initial objectives of the project are defined.

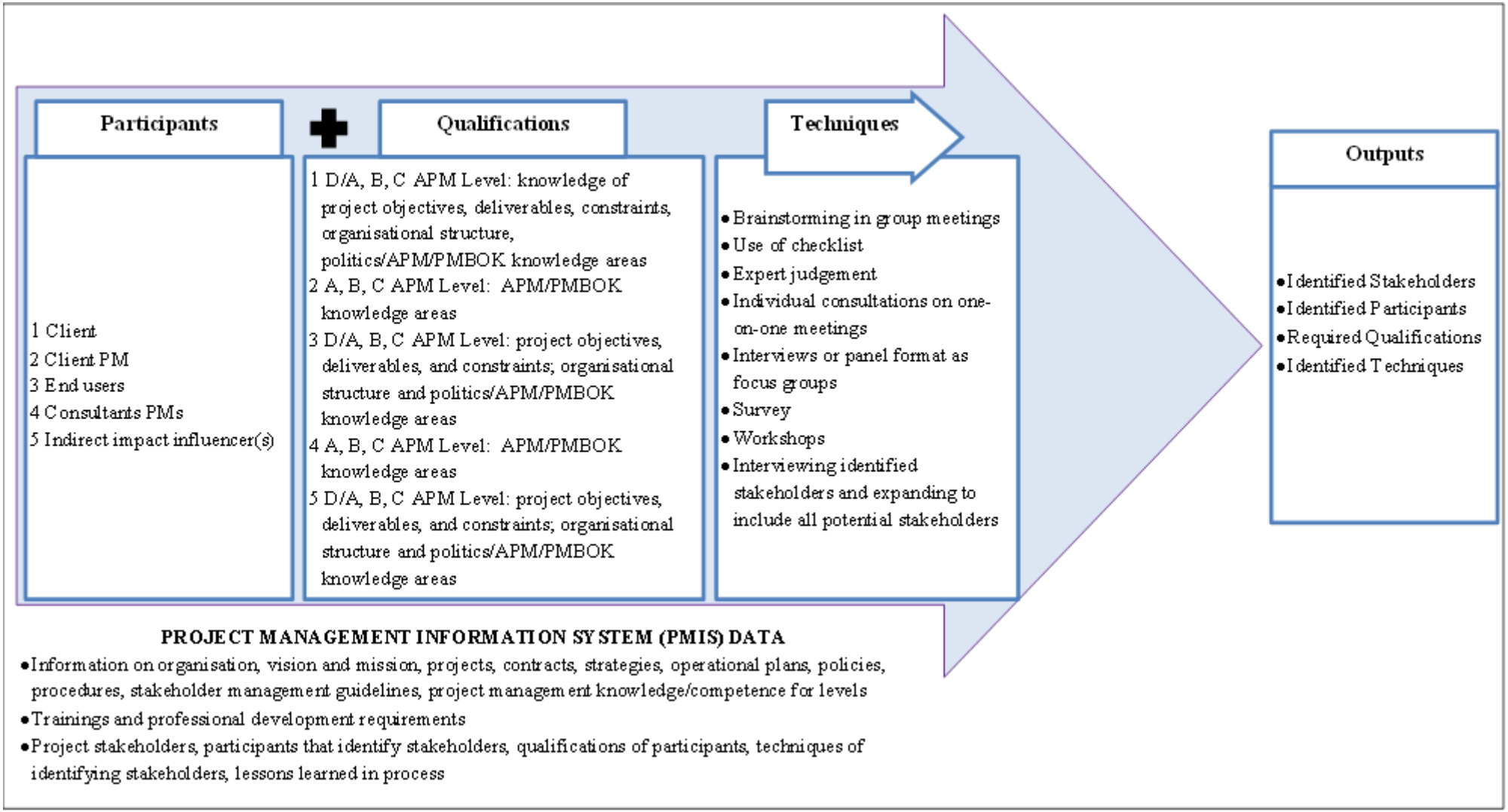

Figure 7.7 Integrated framework for project stakeholder identification at pre-construction phase

Similarly, at the construction phase which succeeds pre-construction phase, the identified project stakeholders from the pre-construction phase are reviewed and updated. The activities on the project in this phase commence from the award of contract to handing over of the physical asset to the client/user. Key activities in this phase include implementing the contract in the project, construction and handing-over of physical asset. Also at this stage of the project, the initial purpose/use of the project may be reviewed, and the cost, time, and quality/specifications objectives established. Details of how these are determined are not within the scope of this research, except understanding of the requirements of the phase and the stakeholders.

Thus, the project stakeholders in the construction phase can be effectively identified by reviewing and updating the participants and their qualifications as described in Sections 7.2.1.1 and 7.2.1.2 and Table 7.1, using reviewed and updated techniques as described in Section 7.2.1.3. The outputs expected are as described in Section 7.2.1.4. Similarly, the project management information/data are updated and documented as described in Section 7.2.1.5. The project requirements in the construction phase will include, implementing the design and specifications of the project, checking progress with respect to time, cost, quality/specifications until the physical asset is completed and handed-over.

Furthermore, the post-construction phase which succeeds the construction phase, reviews and updates the project stakeholders identified in the pre-construction and construction phases. The project requirements in the post-construction phase will include, ensuring that the physical asset is put to its defined and designed use and regularly maintained in its life span. The activities on the project in this phase commence as soon as the construction contractor has handed over the physical asset to the client/user. Key activities in this phase include putting the physical asset to use and maintenance. Also at this stage of the project, the initial purpose/use of the project may be reviewed, and the use of the physical asset re-assigned. Details of how these are determined are not within the scope of this research, except understanding of the requirements of the phase and the stakeholders.

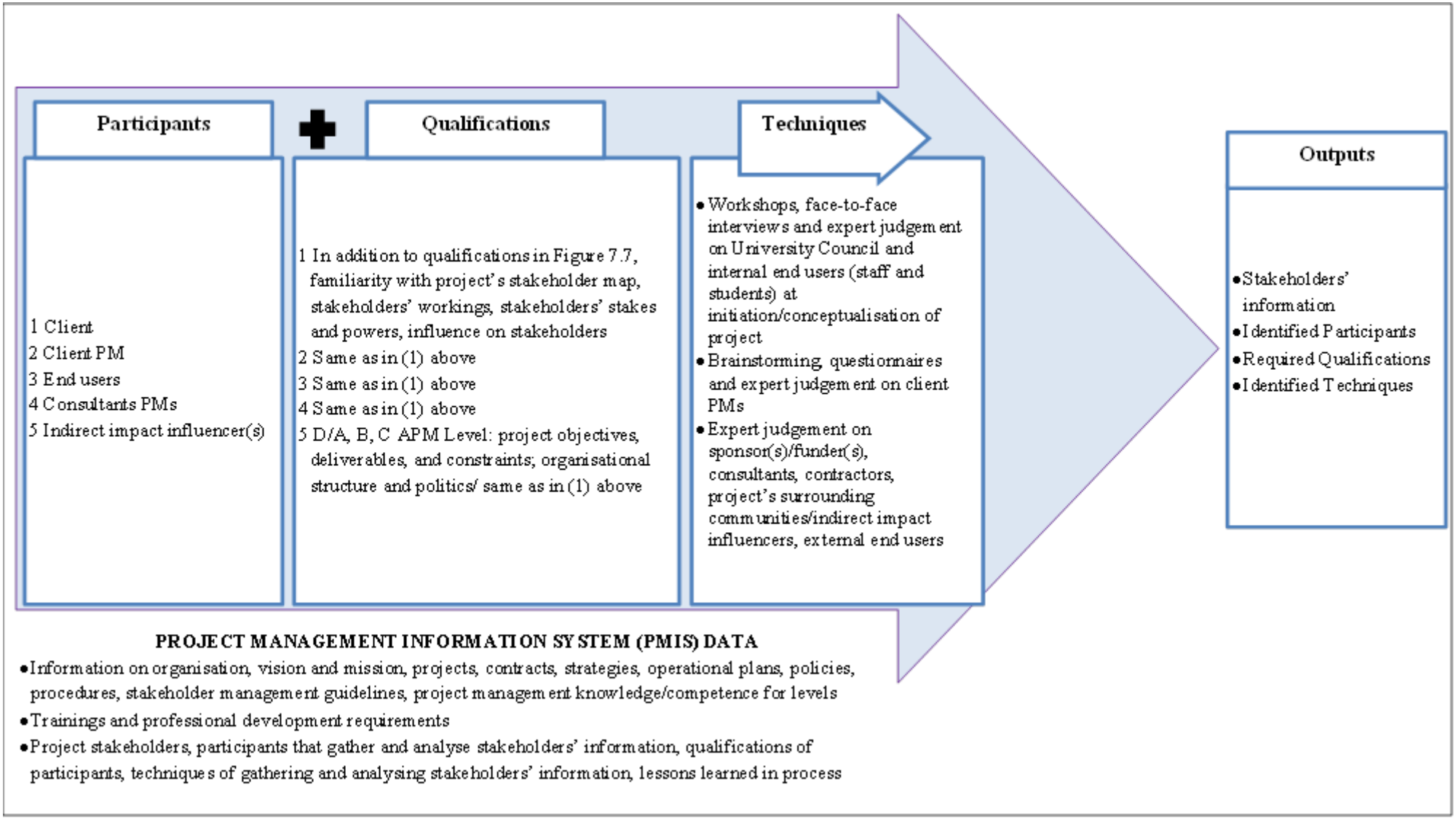

Figure 7.8 Integrated framework for gathering and analysing project stakeholder information at pre-construction phase

Figure 7.8 above shows the integrated framework for gathering and analysing project stakeholders' information at the pre-construction phase proposed for the case studies in this research. It is proposed that project stakeholders' information can be effectively gathered and analysed by qualified participants as described in Section 7.2.1.1 and Section 7.2.1.2 and Table 7.1, using the techniques described in Section 7.2.1.3. While the outputs expected are as described in Section 7.2.1.4, would include the interests of stakeholders, objectives of stakeholders, support and/or opposition of stakeholders, stakes and power; proximity and urgency; needed contributions, rewards, commitments, possible moves, participants, qualifications, and techniques in the process; the project management information/data expected and documented as shown in Figure 7.8 are as described in Section 7.2.1.5.

Similarly, at the construction phase, the gathered and analysed project stakeholders' information from the pre-construction phase are reviewed and updated. Thus, the project stakeholders' information in the construction phase can be effectively gathered and analysed by reviewing and updating the participants and their qualifications as described in Sections 7.2.1.1 and 7.2.1.2 and Table 7.1, using reviewed and updated techniques as described in Section 7.2.1.3. The outputs expected are as described in Section 7.2.1.4. Similarly, the project management information/data are updated and documented as described in Section 7.2.1.5.

Furthermore, the post-construction phase reviews and updates the project stakeholders' information gathered and analysed in the pre-construction and construction phases. Thus, the project stakeholders' information in the post-construction phase can be effectively gathered and analysed by reviewing and updating the participants and their qualifications as described in Sections 7.2.1.1 and 7.2.1.2 and Table 7.1, using reviewed and updated techniques as described in Section 7.2.1.3. The outputs expected are as described in Section 7.2.1.4. Similarly, the project management information/data are updated and documented as described in Section 7.2.1.5.

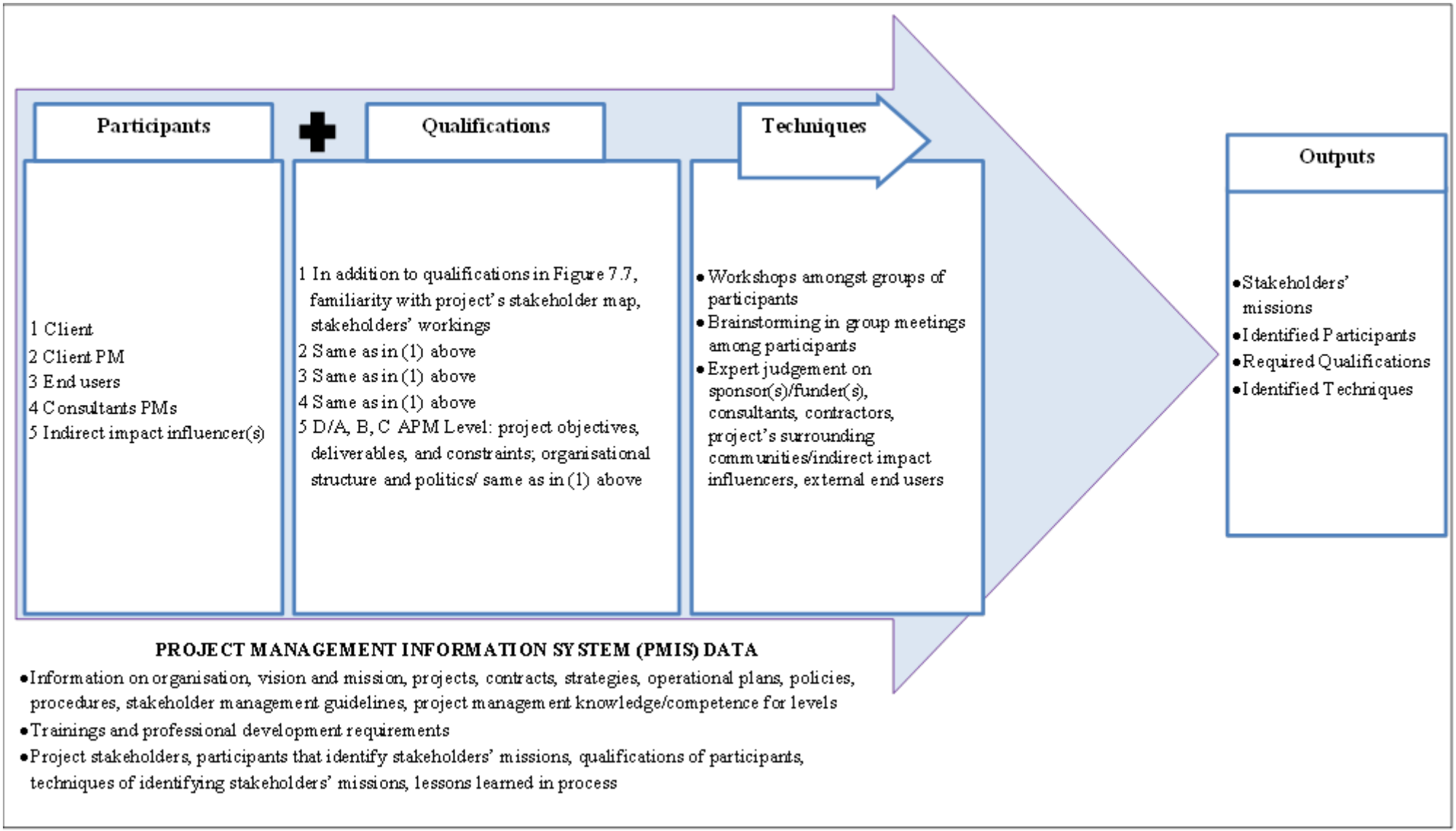

Figure 7.9 Integrated framework for identifying project stakeholders' missions at pre-construction phase

Figure 7.9 above shows the integrated framework for identifying project stakeholders' missions at the pre-construction phase proposed for the case studies in this research. It is proposed that project stakeholders' missions can be effectively identified by qualified participants as described in Section 7.2.1.1 and Section 7.2.1.2 and Table 7.1, using the techniques described in Section 7.2.1.3. While the outputs expected are as described in Section 7.2.1.4, would include the supportive or non-supportive to purpose/use of project, objectives, definition, design, cost, time, specifications, participants, qualifications, and techniques in the process; the project management information/data expected and documented as shown in Figure 7.9 are as described in Section 7.2.1.5.

Similarly, at the construction phase, the identified project stakeholders' missions from the pre-construction phase are reviewed and updated. Thus, the project stakeholders' missions in the construction phase can be effectively identified by reviewing and updating the participants and their qualifications as described in Sections 7.2.1.1 and 7.2.1.2 and Table 7.1, using reviewed and updated techniques as described in Section 7.2.1.3. The outputs expected are as described in Section 7.2.1.4. Similarly, the project management information/data are updated and documented as described in Section 7.2.1.5.

Furthermore, the post-construction phase reviews and updates the project stakeholders' missions identified in the pre-construction and construction phases. Thus, the project stakeholders' missions in the post-construction phase can be effectively identified by reviewing and updating the participants and their qualifications as described in Sections 7.2.1.1 and 7.2.1.2 and Table 7.1, using reviewed and updated techniques as described in Section 7.2.1.3. The outputs expected are as described in Section 7.2.1.4. Similarly, the project management information/data are updated and documented as described in Section 7.2.1.5.

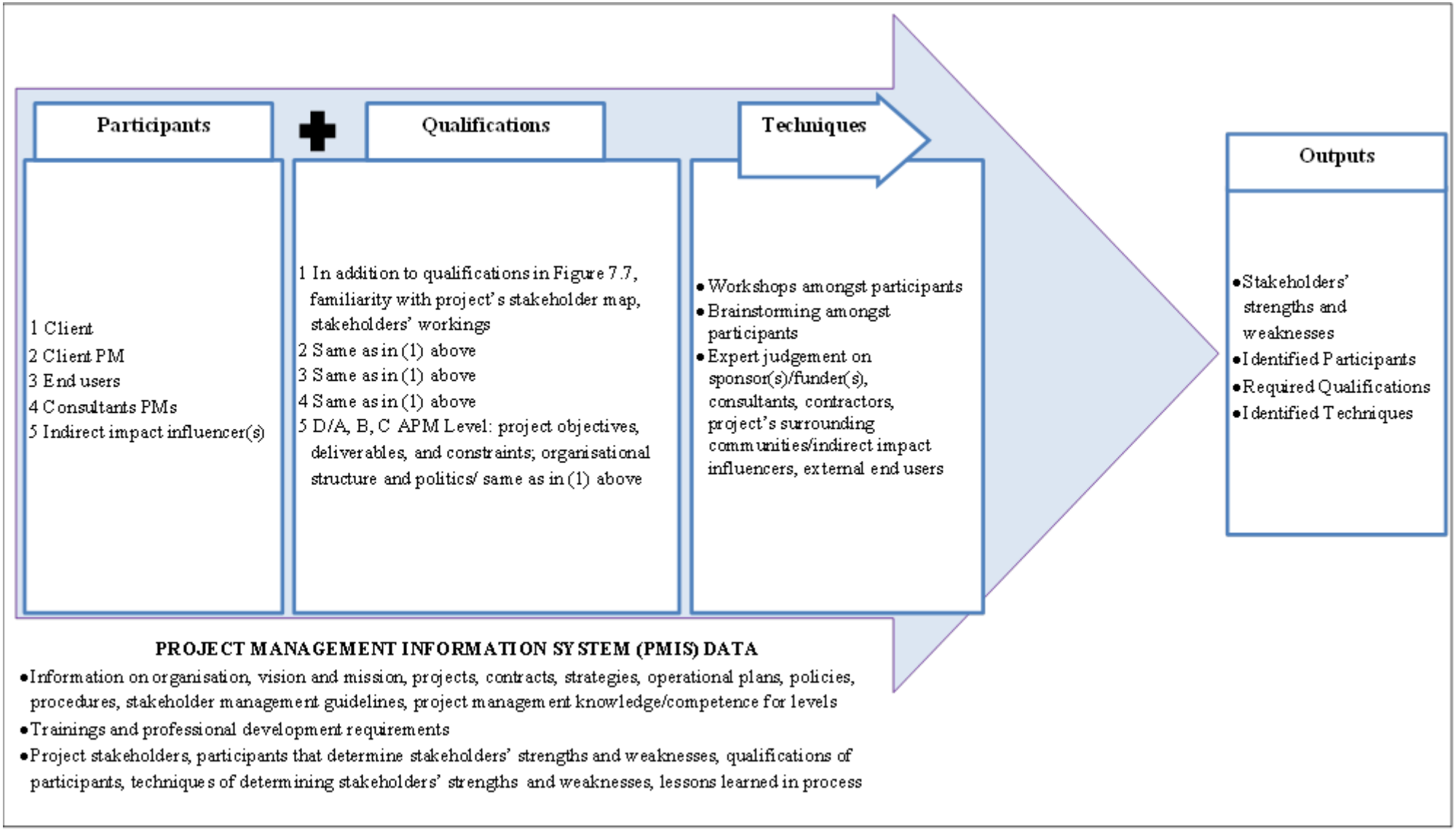

Figure 7.10 Integrated framework for determining project stakeholders' strengths and weaknesses at pre-construction phase

Figure 7.10 above shows the integrated framework for determining project stakeholders' strengths and weaknesses at the pre-construction phase proposed for the case studies in this research. It is proposed that project stakeholders' strengths and weaknesses can be effectively determined by qualified participants as described in Sections 7.2.1.1 and 7.2.1.2 and Table 7.1, using the techniques described in Section 7.2.1.3. While the outputs expected are as described in Section 7.2.1.4, would include understanding availability and effective use of resources, political alliances, public support, quality of strategies, and dedication to members to determine strengths of stakeholders; information from lack of political support, disorganisation and lack of coherent strategy, uncommitted and scattered membership, and unproductive use of resources to determine weaknesses, participants, qualifications, and techniques in the process; the project management information/data expected and documented as shown in Figure 7.10 are as described in Section 7.2.1.5.

Similarly, at the construction phase, the determined project stakeholders' strengths and weaknesses from the pre-construction phase are reviewed and updated. Thus, the project stakeholders' strengths and weaknesses in the construction phase can be effectively determined by reviewing and updating the participants and their qualifications as described in Sections 7.2.1.1 and 7.2.1.2 and Table 7.1, using reviewed and updated techniques as described in Section 7.2.1.3. The outputs expected are as described in Section 7.2.1.4. Similarly, the project management information/data are updated and documented as described in Section 7.2.1.5.

Furthermore, the post-construction phase reviews and updates the project stakeholders' strengths and weaknesses determined in the pre-construction and construction phases. Thus, the project stakeholders' strengths and weaknesses in the post-construction phase can be effectively determined by reviewing and updating the participants and their qualifications as described in Sections 7.2.1.1 and 7.2.1.2 and Table 7.1, using reviewed and updated techniques as described in Section 7.2.1.3. The outputs expected are as described in Section 7.2.1.4. Similarly, the project management information/data are updated and documented as described in Section 7.2.1.5.

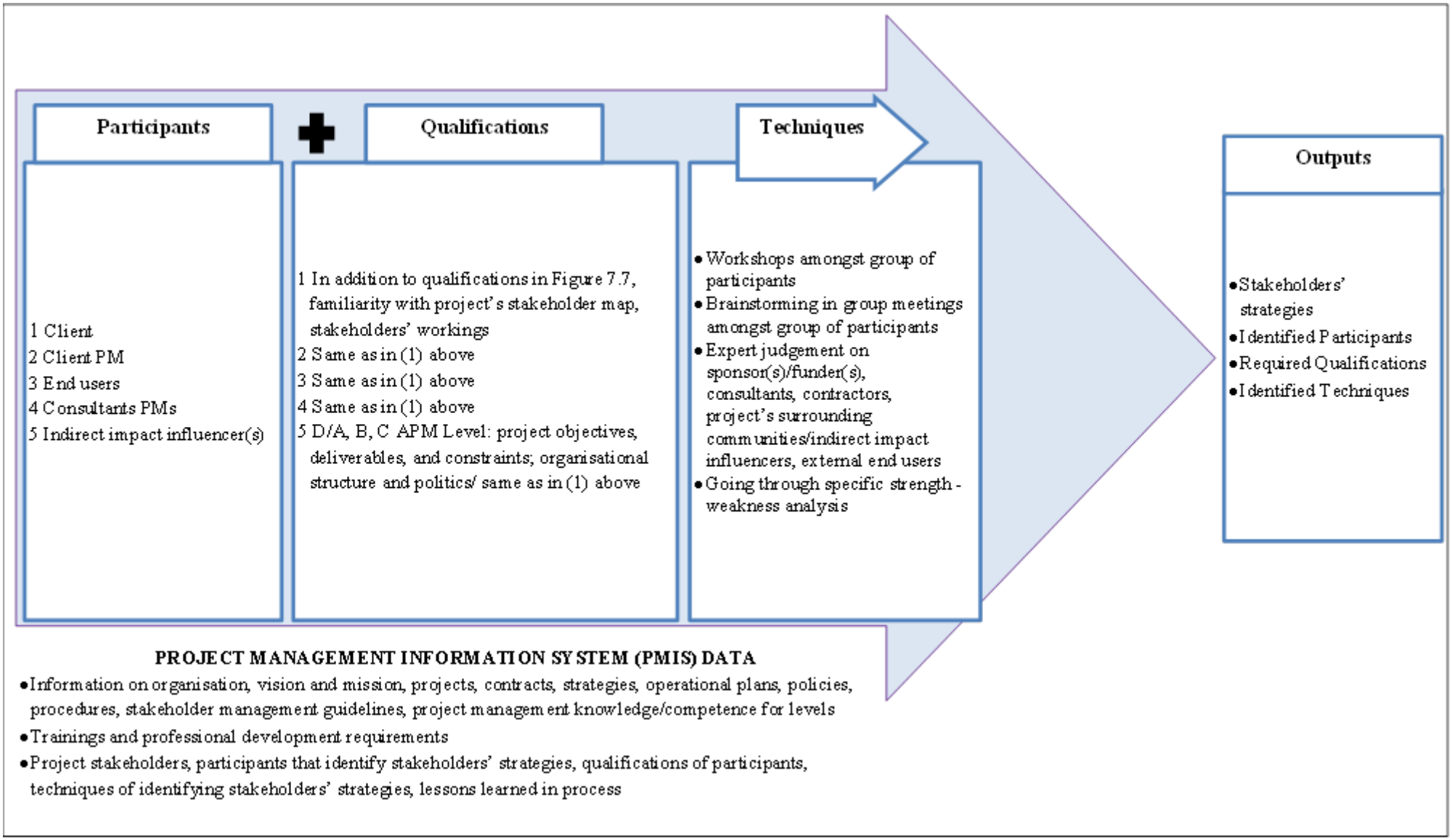

Figure 7.11 Integrated framework for identifying project stakeholders' strategies at pre-construction phase

Figure 7.11 above shows the integrated framework for identifying project stakeholders' strategies at the pre-construction phase proposed for the case studies in this research. It is proposed that project stakeholders' strategies can be effectively identified by qualified participants as described in Sections 7.2.1.1 and 7.2.1.2 and Table 7.1, using the techniques described in Section 7.2.1.3. While the outputs expected are as described in Section 7.2.1.4, would include prescriptions that provide means and set general direction for accomplishing stakeholder goals, objectives, and mission; information on use of resources, policies, procedures to be employed in using resources; participants, qualifications, and techniques in the process. The project management information/data expected and documented as shown in Figure 7.11 are as described in Section 7.2.1.5.

Similarly, at the construction phase, the identified project stakeholders' strategies from the pre-construction phase are reviewed and new stakeholders' strategies based on updated stakeholders are identified. Thus, the project stakeholders' strategies in the construction phase can be effectively identified by reviewing and updating the participants and their qualifications as described in Sections 7.2.1.1 and 7.2.1.2 and Table 7.1, using reviewed and updated techniques as described in Section 7.2.1.3. The outputs expected are as described in Section 7.2.1.4. Similarly, the project management information/data are updated and documented as described in Section 7.2.1.5.

Furthermore, the post-construction phase reviews and updates the project stakeholders' strategies identified in the pre-construction and construction phases. Thus, the project stakeholders' strategies in the post-construction phase can be effectively identified by reviewing and updating the participants and their qualifications as described in Sections 7.2.1.1 and 7.2.1.2 and Table 7.1, reviewed and updated techniques as described in Section 7.2.1.3. The outputs expected are as described in Section 7.2.1.4. Similarly, the project management information/data are updated and documented as described in Section 7.2.1.5.

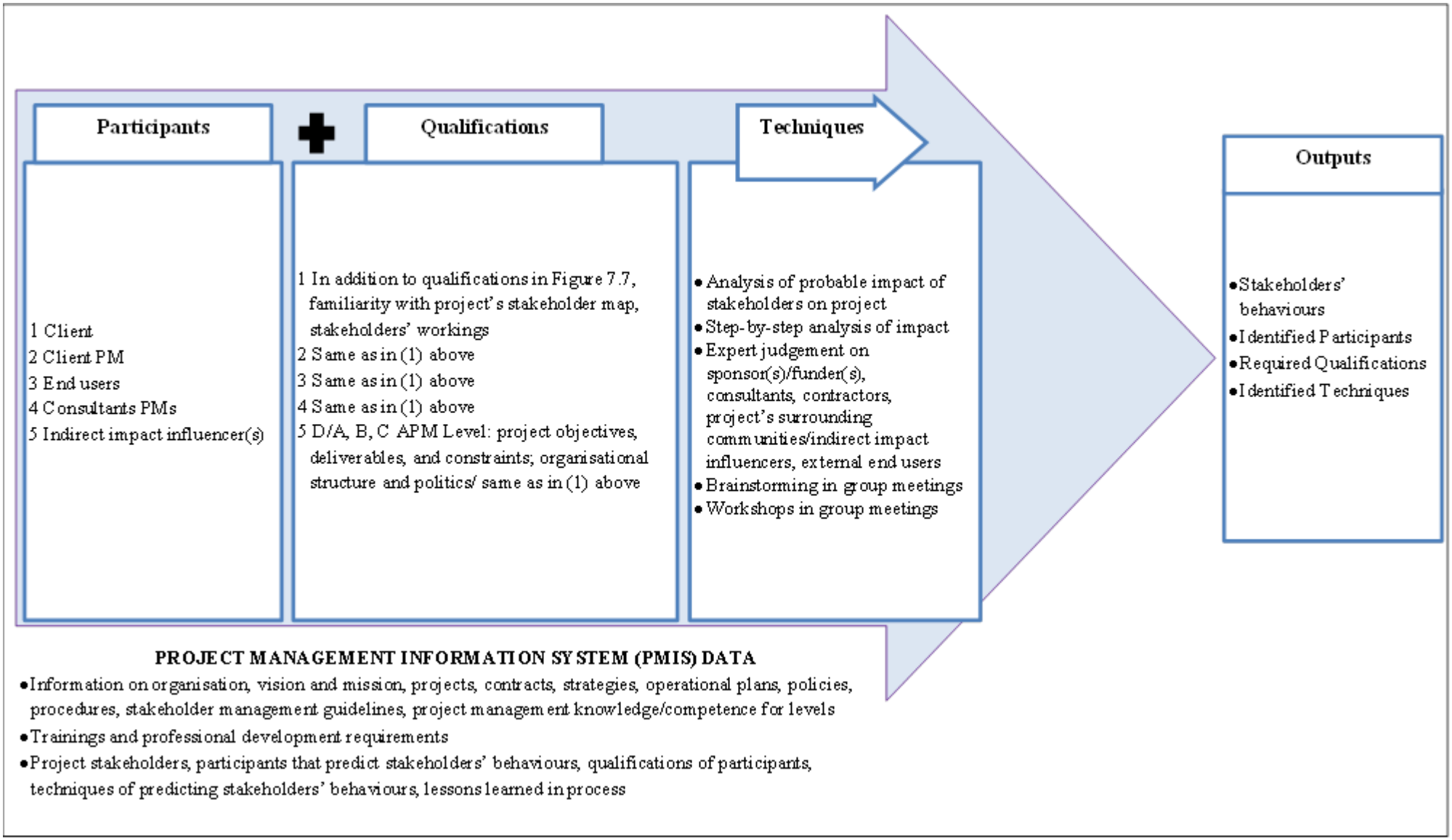

Figure 7.12 Integrated framework for predicting project stakeholders' behaviours at pre-construction phase

Figure 7.12 above shows the integrated framework for predicting project stakeholders' behaviours at the pre-construction phase proposed for the case studies in this research. It is proposed that project stakeholders' behaviours can be effectively predicted by qualified participants as described in Sections 7.2.1.1 and 7.2.1.2 and Table 7.1, using the techniques described in Section 7.2.1.3. While the outputs expected are as described in Section 7.2.1.4, would include stakeholders' behaviours on use of resources to affect project, picketing of construction site or use of courts to delay or stop project, circulation of petition to stop project, attempt to influence future legislation, provision of help to other stakeholders; participants, qualifications, and techniques in the process. The project management information/data expected and documented as shown in Figure 7.12 are as described in Section 7.2.1.5.

Similarly, at the construction phase, the predicted project stakeholders' behaviours from the pre-construction phase are reviewed and new stakeholders' behaviours based on updated stakeholders are predicted. Thus, the project stakeholders' behaviours in the construction phase can be effectively predicted by reviewing and updating the participants and their qualifications as described in Sections 7.2.1.1 and 7.2.1.2 and Table 7.1, using reviewed and updated techniques as described in Section 7.2.1.3. The outputs expected are as described in Section 7.2.1.4. Similarly, the project management information/data are updated and documented as described in Section 7.2.1.5.

Furthermore, the post-construction phase reviews and updates the project stakeholders' behaviours predicted in the pre-construction and construction phases. Thus, the project stakeholders' behaviours in the post-construction phase can be effectively predicted by reviewing and updating the participants and their qualifications as described in Sections 7.2.1.1 and 7.2.1.2 and Table 7.1, using reviewed and updated techniques as described in Section 7.2.1.3. The outputs expected are as described in Section 7.2.1.4. Similarly, the project management information/data are updated and documented as described in Section 7.2.1.5.

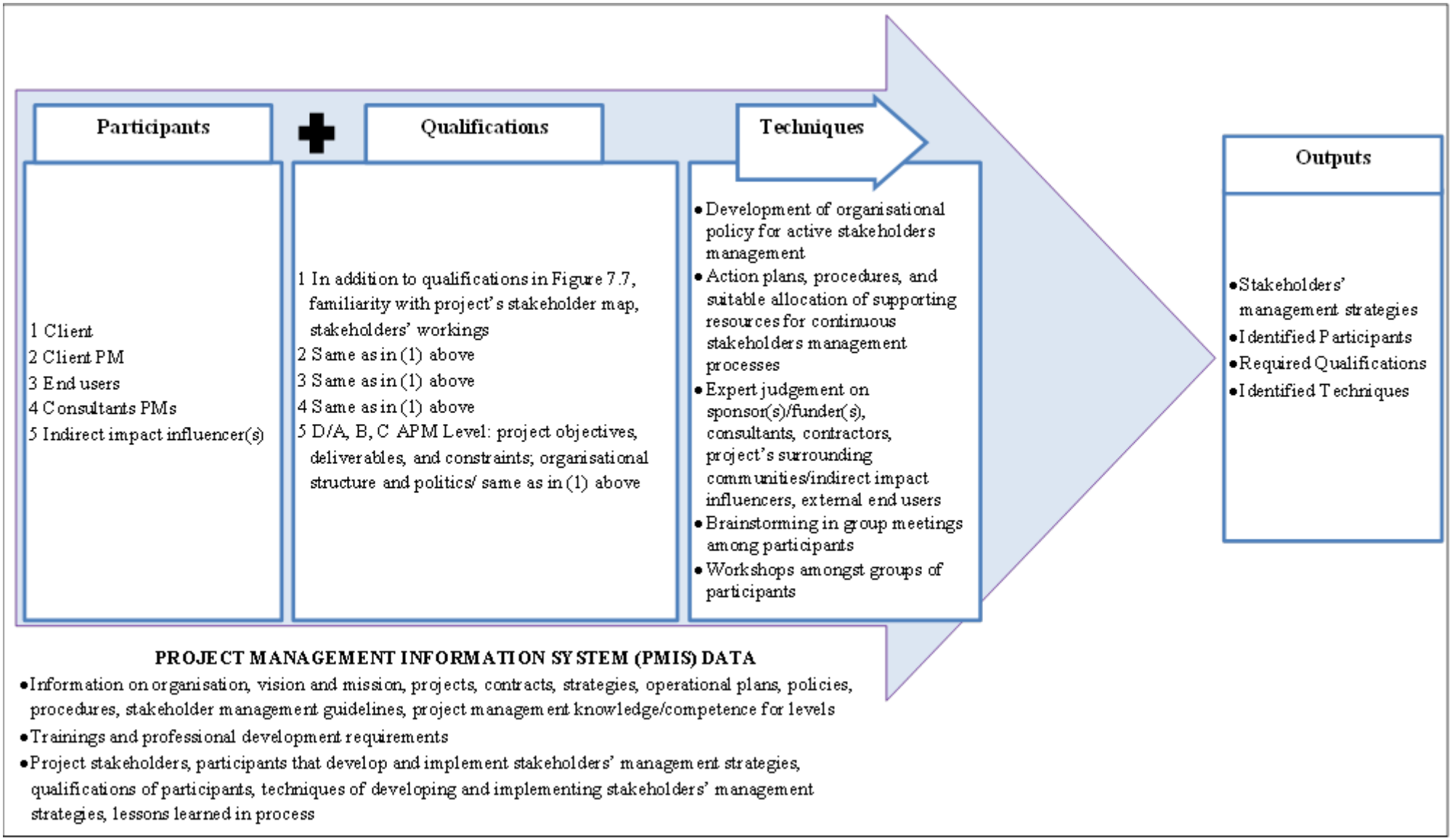

Figure 7.13 Integrated framework for developing and implementing project stakeholders' management strategies at pre-construction phase

Figure 7.13 above shows the integrated framework for developing and implementing project stakeholders' management strategies at the pre-construction phase, proposed for the case studies in this research. It is proposed that project stakeholders' management strategies can be effectively developed and implemented by qualified participants as described in Sections 7.2.1.1 and 7.2.1.2 and Table 7.1, using the techniques described in Section 7.2.1.3. While the outputs expected are as described in Section 7.2.1.4, would include implementation strategies such as involvement, monitoring, defending, and collaborating, developed on bases of typology of stakeholders; participants, qualifications, and techniques in the process. The project management information/data expected and documented as shown in Figure 7.13 are as described in Section 7.2.1.5.

Similarly, at the construction phase, the developed and implemented project stakeholders' management strategies from the pre-construction phase are reviewed and new management strategies based on updated stakeholders are developed and implemented. Thus, the project stakeholders' management strategies in the construction phase can be effectively developed and implemented by reviewing and updating the participants and their qualifications as described in Sections 7.2.1.1 and 7.2.1.2 and Table 7.1, using reviewed and updated techniques described in Section 7.2.1.3. The outputs expected are as described in Section 7.2.1.4. Similarly, the project management information/data are updated and documented as described in Section 7.2.1.5.

Furthermore, the post-construction phase reviews and updates the project stakeholders' management strategies developed and implemented in the pre-construction and construction phases. Thus, the project stakeholders' management strategies in the post-construction phase can be effectively developed and implemented by reviewing and updating the participants and their qualifications as described in Sections 7.2.1.1 and 7.2.1.2 and Table 7.1, using reviewed and updated techniques described in Section 7.2.1.3. The outputs expected are as described in Section 7.2.1.4. Similarly, the project management information/data are updated and documented as described in Section 7.2.1.5.

The following sections (7.2.1.1 – 7.2.1.4) describe the input (participants in stakeholder management process and their qualifications), techniques (techniques of stakeholder

management process) and outputs (outputs of stakeholder management process) elements considered for effective and increased understanding of project stakeholder management process for project stakeholder management in the integrated framework across the project life cycle phases in this research. Also described in Section 7.2.1.5 is the project information/data documentation and management, for project stakeholder management in the integrated framework across the project life cycle phases in this research.

7.2.1.1 Participants in stakeholder management process

The importance of participants in stakeholder management process has been earlier argued in Chapter 4. Therefore, for effective stakeholder management across the project life cycle, the concept of the project stakeholder map and key stakeholders in the project need to be considered in determining the participants. Since the stakeholders will vary in the phases of the project life cycle, so also the participants are expected to vary. Considering the cases which are universities, the participants will emerge from the project stakeholder groups, which include the client (the University Council), the client's project manager (the Directorate of Physical Planning/Facilities unit or Estates Department), the project users (staff and students), indirect impact influencers such as the project's surrounding communities and external end users, the consultants, and the contractors. Figures 7.7 – 7.13 give details of and about the participants in each step of the project stakeholder management process at the pre-construction phase. The same process is followed for construction and post-construction phases, however reviewing the previous phase and updating in each step of the project stakeholder management process.

7.2.1.2 Qualifications of participants in stakeholder management

Similarly, the extant literature has paid less consideration about the qualifications of participants in the stakeholder management processes. Also, the results and analyses of the findings from the empirical studies revealed the lack of the wide and deep understanding of the concept of project and stakeholder management by the project management teams. In addition to the need for understanding the qualifications of participants in the process, this research argues that participants in the cases require

some minimum level of knowledge and competence in project management to effectively manage the stakeholders on projects.

To prepare the participants in the project stakeholder management process to effectively manage project stakeholders, some project management knowledge and competences are required. However, these will depend on the position of the participant in the organisation as well as their level of involvement in the stakeholder management process. Guidance on the required competence proposed and recognised in this research is derived from PMBOK and APM project management knowledge areas and/or competence levels.

The project management knowledge areas in APM and PMBOK adopted in the proposed integrated framework in this research are in consideration of the positions and involvement of the participants in the organisations. Also, the required levels of competence adopted are the four Levels of Competence in the *APM Competence Framework* (Association for Project Management, 2008), which are described as follows:

- Projects director (APM Level A)
- Senior project manager (APM Level B)
- Project manager (APM Level C)
- Project management associate (APM Level D).

The Level of Competence required at each APM Level increases as the requisite knowledge and experience of the individual broadens and deepens.

The APM Level A for the projects director requires at least five years of experience in portfolio management, programme management or multi-project management, of which three years were in responsible leadership functions in the portfolio management of a company/organisation or a business unit, or in the management of important programmes. In this research, the requirements of this level on technical, behavioural, and contextual competence as defined by Association for Project Management (2008) is recommended for the Director and Deputy Directors. The competence domain weightings for this level is technical (40%), behavioural (30%), and contextual (30%). This research further proposes that while some of the competences can be acquired from

formal educational training, others can be obtained through continuous professional development training in the project management knowledge areas as shown earlier in Table 7.1.

In the case of APM Level B for the senior project manager, it requires at least five years of project management experience, of which three were in responsible leadership functions of complex projects. In this thesis, the requirements of this level on technical, behavioural, and contextual competence as defined by Association for Project Management (2008) is recommended for the chief and principal professionals in the organisation, such as the chief and principal architect, the chief and principal engineer, the chief and principal builder, and the chief and principal quantity surveyor. The competence domain weightings for this level is technical (50%), behavioural (25%), and contextual (25%). This research further proposes that some of the competences can be acquired from formal educational training and others can be obtained through continuous professional development training in the project management knowledge areas as shown in Table 7.1.

For the APM Level C for the project manager, at least three years of project management experience and responsibility for leadership functions of projects with limited complexity are required. In this research, the requirements of this level on technical, behavioural, and contextual competence as defined by Association for Project Management (2008) is recommended for the senior and other professionals in the organisation, such as the senior builder, civil engineer, quantity surveyor, and architect. The competence domain weightings for this level is technical (60%), behavioural (20%), and contextual (20%). This thesis further proposes that some of the competences can be acquired from formal educational training and others can be obtained through continuous professional development training in the project management knowledge areas as shown in Table 7.1.

The APM Level D in the case of the project management associate, experience in the project management competence elements is not compulsory, but an advantage if the candidate has already applied project management knowledge to some extent already. However, unlike as recommended by Association for Project Management (2008), in

this research, this level is proposed for non-professionals in the management of the project and project stakeholders in the organisation. These include non-professionals in the University Council and the University facility/project end user. However, for these non-professionals in project management, the basic understanding of the concepts of project objectives of time, cost, scope, quality/specification, performance; project stakeholders; project benefits; project purpose will be necessary for relatively effective participation. These basic concepts can be acquired through workshops, symposia, and seminars organised for these categories of participants during initiation and/or conceptualisation of the project and at regular stages in the life of the project.

In Figures 7.7 – 7.13, the details of the qualification of participants in each step of the project stakeholder management process at the pre-construction phase are given. The same process is followed for construction and post-construction phases, however reviewing the previous phase and updating in each step of the project stakeholder management process.

7.2.1.3 Techniques of stakeholder management

Despite the insights in the extant literature on the techniques for stakeholder management process as shown in Chapter 4, however, these pay less consideration to specific techniques. The argument in this research is that the techniques should recognise the peculiarity of the activities in the stages and/or phases in the project life cycle and the project stakeholder groups and their nature. Thus, at the pre-construction phase, the activities include initiation of the project, appraising the project, defining and designing the project, and the project stakeholder groups include the University Council, the client's representative at the organisational level; the Directorate of Physical Planning/Facilities unit or Estates Department, the client's project manager at the project level; indirect impact influencers such as the project's surrounding communities and external end users; and the staff and students, the beneficiaries or end users of the project. The University Council is a statutory body established in the university to govern the university, therefore, statutorily have the mandate to be involved in the construction projects in the university. The Directorate of Physical Planning/Facilities unit or Estates Department is the project management unit/department of the university established for that purpose, therefore is involved as

its domain role. As the beneficiaries or end users of the project, the staff and/or student stakeholders are identified based on the purpose/use of the project, such as staff accommodation, student hostel, lecture theatre/studios, and sports theatres.

The techniques as shown in Figures 7.7 – 7.13 are specific for each step of the project stakeholder management process at the pre-construction phase. For the construction and post-construction phases, similar process is followed, however reviewing the previous phase and updating in each step of the project stakeholder management process.

7.2.1.4 Outputs of the stakeholder management process

Although the extant literature has emphasised the importance of all the steps in the stakeholder management process, however, insights about the specific outputs of these have not been detailed. In addition, the results and analysis of the findings from the empirical studies were unclear. Thus, the argument of this research as earlier stated in Chapter 4 is that specific outputs of the stakeholder management process for the different phases of the project life cycle need to be obtained, for effective project stakeholder management.

Figures 7.7 – 7.13 give details of the outputs in each step of the project stakeholder management process at the pre-construction phase. For the construction and post-construction phases, similar process is followed, however reviewing the previous phase and updating in each step of the project stakeholder management process.

The outputs of the project stakeholder management process across the project phases are important for documentation for reference, review, and use for future similar projects. The outputs from the project stakeholder management process serve as inputs for the PMIS as described in the section below.

7.2.1.5 Project management information system (PMIS)

Figure 7.4 shows a conceptual arrangement of the PMIS, depicting the organizational project management information/data being loaded into the PMIS from the computer on the left. The system stores information concerning the project from both the parent organisation and at the project level (Cleland and Ireland, 2007). Accordingly,

information from the parent organization would include all background information such as contracts, strategies, operational plans, policies, procedures, and other documents influencing how and when the project will be implemented. On the other side, the three computers show the interaction between the project team and the store of knowledge. The project team populates the PMIS with such information as the project plan, which includes all its subordinate documents, schedules, budget, correspondence, specifications, statement of work, and drawings. Once the initial data are loaded, the project team would maintain the system through updates.

A fully populated PMIS would be accessed anytime as the need arises for information. It would be the first source of information for managing the project with the relevant information from both the organisation's information system and the project-generated information.

During post-project assessments, the PMIS can provide a wealth of information on what was accomplished, what should have been accomplished, and how it was accomplished. The actual performance data for the project provide a record of how well the project accomplished its purpose. This written record is more reliable than the memory of individuals, because as individuals complete their work and leave, they may not be available for post-project questioning.

Another view of a PMIS is that project teams need information to support their efforts in the project. Information should be readily available and easy to obtain, preferably by computer. The PMIS should be a store of knowledge for the project and the first source for information about the project. It should include background information on the project, current information on project activities, and information that reflects organizational guidelines. The PMIS is a critical area that supports the project and allows it to be managed by fact. The PMIS store of knowledge should be an enabling tool for the project manager and project team. It does not replace leadership or project methodologies, but will provide the means to make the projects more successful.

One project may generate significant information that has value for future projects. The PMIS, as the store of knowledge, can be made available at any time to support the

organisation's work on another project. Although the project may be on-going, there is still valuable information that can support planning and initiation of new projects.

As projects generally generate various types of information/data, in different sizes and quantities, this research proposes a project website for the PMIS for the university project management. The project website when developed should provide for populating the system with project information/data at the organisational level of the university and at the project level at the Directorate of Physical Facilities/Planning unit or Estates Department. By this way, the system will improve the management of the projects and project stakeholders by the project stakeholder management participants. In addition, information populated into the system can be kept secured and accessible by those interested in knowing the progress or position of the project. The sections below describe the information to be fed into the PMIS and the maintenance of the system.

7.2.1.5.1 The information in the PMIS

The information populated into the PMIS is generated at the organisational level of the university and at the project level. The information from the university (organisational level) is the pool of information on the project from the University Council, the University Tenders' Board, the University Procurement Planning Committee, the University Pre-Qualification Evaluation Committee, and the Price Control Unit and at the project level, from the Directorate of Physical Facilities/Planning Development and Maintenance Units, the Contractor, and Consultants/Project manager consultants.

At the pre-construction phase, the information at the organisational level will include information about the organisation, its vision and mission, the projects, project contracts, project strategies, project operational plans, project policies, project procedures, project stakeholder management documents, and project management competence requirements for different levels. While some of the information may be the standing policy of the organisation, others may be for the particular project in progress, such as stakeholders on the project, participants in the stakeholder management process, qualifications of the participants in the stakeholder management process, techniques in the stakeholder management process, the outputs of stakeholder management process, and the specific project management competence requirements for different levels at the

pre-construction phase. The project teams at the project level populate the PMIS with such information as the project plan, including all its subordinate documents, schedules, budget, correspondence, specifications, statement of work, and drawings. In addition, at the project level, the progress in terms of the progress made on the management of the project and project stakeholders are populated and upgraded for monitoring progress. Once the initial data are loaded, the project teams at the project level and organisational level would maintain the system through updates.

7.2.1.5.2 Management of the PMIS

Prior to populating the system with the required information/data about the projects and organisation, a system of management/maintenance of the website is required. The website will contain information on the organisation and projects that could be free and easily accessible, as well as information on the organisation and projects that may be restricted at some particular time and/or to unauthorised persons. To avoid the abuse of the website, it must be designed to be secured and protected. Authorisation to populate the system with the required information/data must be restricted as well, to avoid wrong and illegal information from finding their way into the system, since the information may also be important to other stakeholders who may not be part of the stakeholder management participants and outside the project and organisation level. Furthermore, aside the interaction between the organisation and the project level, access to the information for the purpose of reference needs to be made simple but not to compromise the projects and the organisation. Consequently, this research recommends that, a project management office resident in the University Council (the highest administrative policy arm of the university) is created with a webmaster for maintaining the project website.

7.3 Validation of Integrated Framework

The development of the integrated framework for the management of stakeholders in the public sector projects in Nigeria has been described in the previous sections. In this section, the evaluation (validation) of the framework is presented.

In all, 22 individuals were invited to participate in the validation of the framework. Among this number were 13 senior academics in Nigeria who also have industry

experience in the management of projects spanning more than 10 years. This was to gain from their experiences, to ensure a robust framework. The other 9 were industry experts, also in Nigeria, among which 7 are from the four cases investigated and the remaining 2 currently work in the construction industry, although had academic experience from the university. However, 19 of the invitees accepted to participate in the validation of the framework, which included 10 from the academics, 7 from the cases, and 2 from the industry.

Feedbacks for the validation of the framework was received from 11 respondents, representing 57.9% turn-out from the 19 participants. This comprised 10 participants who used the Bristol Online Survey (BOS) that was used to deliver the questionnaire and 1 participant that used the paper-based alternative questionnaire. Although the questionnaire optionally requested for identities of the respondents, the feedbacks generally did not show respondents indicating that. Furthermore, although, a few of the respondents had called to confirm responding to the exercise, which indicated responses across the categories of the respondents, it was not easy to specifically ascribe any response to individual respondents. However, since from all the feedbacks, all the participants accepted the proposals on the main issues in the framework, as shown in Table 7.2, the need to ascribe responses to participants did not matter.

The responses to the questions, based on Appendix F are shown in Table 7.2 below. The contents of Table 7.2 are based on the responses from 10 respondents. This shows the responses on the context and content of the integrated framework and the project stakeholder management process in the integrated framework, which shows 100% acceptance by the participants. Same results appeared for the project management knowledge areas and competence and PMIS in the integrated framework.

Table 7.2 Analysis of responses to validation of framework

Main questions	Concepts/Features of questions	Sub-questions	Responses			Remarks
			Yes	No	Do not know	
1	Context and content of framework	(i)	10	-	-	All participants agree with the context and content of the framework
		(ii)	-			
2	Project stakeholder management process	(i)	10	-	-	All participants agree with the project stakeholder management process
		(ii)	-			
3	Project management knowledge areas and competences	(i)	10	-	-	All participants agree with the project management knowledge areas and competences
		(ii)	-			
4	Project management information system (PMIS)	(i)	10	-	-	All participants agree with the project management information system (PMIS)
		(ii)	-			
5,6	Further comments	5	Five responses received which expressed different views			
		6	Three responses received showing different views			

From the analysis of the responses as shown in Table 7.2, all the respondents agree that: The proposed context and content of the framework are appropriate and adequate to address the shortcomings in practice and increase the understanding of project stakeholder management process in the literature. Also, there was consensus among all the research participants that the proposed project stakeholder management process in the framework will improve the management of project stakeholders in the case studies. In addition, the research participants concur that the proposed recommendation on project management knowledge areas and competence will adequately improve the understanding/knowledge and competence of project management teams in the case studies, to manage projects and stakeholders. Furthermore, all the research participants agree that the proposed PMIS in the framework could ensure project information/data contents, storage, and management/maintenance in the case studies, for efficient and effective project and stakeholder management.

The consensus from the research participants on the integrated framework as indicated above demonstrates the robustness of the integrated framework which can be relied upon to address the weaknesses in the stakeholder management practice from the case studies.

On further general comments, some of the respondents have observed that:

1. The framework can work only under ideal conditions, like absence of corruption, strong legal framework, willingness of all stakeholders to cooperate. Also, it is observed that cost implications to project management under this framework are not very clear. Ideal conditions are rare, however, application of the framework for project and stakeholder management could remove corruption, as part of the information on stakeholders could reveal tendencies for introducing or being corrupt, which the strategies to manage such stakeholders could avoid the tendencies for corruption. Introduction of legislation on the application of the recommendations of the framework could also compel the stakeholders to cooperate to apply the framework and block corrupt tendencies. Cost implications under this framework are unavoidable due to the commitment required on all the participants. However, assessment of this was outside the scope of the research.

2. The framework can work through decentralization of the project delivery process. This is the argument of the research, involvement of stakeholders on the management of their projects, as against only the idea of the client project management team.
3. The research is coming at the right time. The report will contribute immensely towards a better and improved way of managing projects in the Nigerian universities. This comment has further confirmed the absence of project stakeholder management process in the Nigerian public universities' project management, thus the relevance of the study.
4. The framework may wish to consider the harmonisation of stakeholders' relationships, stakeholder relevance rather than qualification, consideration of the design stage at the pre-construction phase. Stakeholder relationship is another important aspect of stakeholder management which cannot fit into this framework and is outside the scope of this study, and could be dealt with outside this framework. Stakeholder relevance is a strong backbone of this study which has been emphasised in the extant literature. The design stage is one of the stages in the pre-construction phase recognised in this study, therefore has been included
5. Project stakeholders need to be broadened, particularly with the new concept in project initiation and sponsorship via public private partnerships and several interventionist programmes in Nigerian universities' infrastructure development, which is a new concept that is just evolving as a result of awareness campaign to the effect that government alone could not bear the responsibility of providing and maintaining infrastructure facilities in the universities. The focus of this comment is on procurement route. Although this framework is for public sector projects in Nigeria which are mostly procured through the traditional design and build, the principles of the framework which also encourages broad-based participation of stakeholders could be applied with modifications to any procurement method.
6. The framework is good and relevant to improve project delivery and management in Nigerian universities. However, the framework should be flexible to enable it accommodate the dynamics in project management as well as the diversity of project stakeholders. A careful study of the framework and the

argument in the research show the recognition of the diversity of project stakeholder, thus, the idea of the recognition of stakeholder map and the concept of project stakeholder involvement as part of the dynamics in project management.

7. Introduction of peer review mechanisms whereby universities through the NUC would from time to time meet to review performances in terms of project implementation. Through such meetings, suggested to be held annually, participants would share challenges and successes in project implementation experienced on their campuses. As a supervisory and regulatory body to universities in Nigeria, NUC's approval of the application of this framework could provide avenue for uniformity, peer review and experience sharing.
8. Accessibility to project financial details should not be the reserve of the managers of the projects alone, but civil society and other non-governmental organizations. This is an area that PMIS part of the framework is important, which could ensure checks and balance and accountability.
9. Based on experience in the management of projects in the universities in Nigeria, not all project management stakeholders are engaged at the pre-construction stage. Those charged with the responsibility of management of production process are mostly engaged at the construction stage, this often affects quality and successful completion of the projects. This comment has further confirmed the need for this framework which accommodates all phases of the project life cycle and stakeholders on the project.

Although these comments are vital, however, they could not be considered to affect the review of the developed framework. This is because, while some of the issues raised are outside the scope of the research and may not fit into the context of the framework, some are intrinsically embedded in some contents of the framework. Thirdly, the research participants had earlier in the preceding evaluation endorsed the adequacy and appropriateness of the framework to effectively manage project stakeholders and facilitate project success. As such, some of the comments are being considered as recommendations for future assessment and study. Consequently, the proposed integrated framework is considered appropriate, adequate, and applicable, for effective

project stakeholder management in the public sector construction project management in Nigeria, to facilitate project success.

The potential of the framework to impact project success is shown in each component of the framework. First, the competence of the PM teams to effectively manage projects and project stakeholders to achieve project success is assured from improvement of their project management knowledge and competence recommended in the project management knowledge and competence areas in the framework. Secondly, the application of the project stakeholder management process (formal, systematic and practical) in the framework by the PM team has the potential to impact project success. This is because the right and qualified participants who in turn identify the potential project stakeholders would have been identified; the required information on the project stakeholders would have been gathered; the right analysis of these information and development and implementation of the right management strategies would have been undertaken. Thirdly, the documentation and management of project information/data by the PM teams could impact project success because the PM teams would have project information/data database to access project information/data to refer to and be guided by to ensure the achievement of the project objectives, thus, project success. Thus, the application of the integrated framework is expected to facilitate project success due to its robustness and the guidelines on the participants to operate the framework, the capabilities required of the participants, the techniques of the process and the expected outputs.

7.4 Chapter Summary and Conclusion

The chapter presented the development and evaluation of an integrated framework for stakeholder management for the case studies in this research. To develop the framework, issues identified to improve project stakeholder management and facilitate project success were considered in the development of the integrated framework. These include the participants and their qualifications in the stakeholder management process and the techniques and outputs of the stakeholder management process. Other issues considered include the project management knowledge areas and competencies of the participants in the stakeholder management process and the documentation of the project and stakeholder management information/data into a project management

information system for reference. Thus, the framework was developed by integrating a seven-step project stakeholder management process model considering the participants and their qualifications in the stakeholder management process and the techniques and outputs of the stakeholder management process, project management knowledge and competence and PMIS across a three-phase project life cycle. The integrated framework was evaluated using questionnaire survey among the research participants and other experts which show its acceptance to improve project stakeholder management and facilitate project success in the cases studies.

Consequently, considering the robustness and uniqueness of the integrated framework, which has pooled together key issues such as project management knowledge and competence areas, project stakeholder management process, and project management information system, all of which existed as stand-alone, it has the potential to effectively manage project stakeholders to facilitate project success. Also, the integrated framework has offered a new approach to project stakeholder management which has added to the existing body of knowledge on project management. The following chapter presents the conclusions of the research and recommendations for further study.

Chapter 8 Conclusions and Recommendations

8.1 Conclusions

This research is based on evidence that project success in public sector construction projects in Nigeria is hindered by, among other issues, poor project stakeholder management. As a result, the study involved the development of a conceptual framework for effective stakeholder management. Using the conceptual framework, empirical study to establish the practice of project stakeholder management in Nigerian public sector projects in four public universities as case studies was carried out. The resulting data were analysed and strengths and weaknesses of the practice established. Consequently, an integrated framework to improve effective project stakeholder management and facilitate project success was developed and evaluated using a questionnaire survey. This chapter presents the conclusions the research, showing the achievement of the objectives of the research and the original contributions to knowledge of the research findings and areas for further research arising from this research.

The sections of the chapter are presented as follows:

- Section 8.1 which provides the conclusions of the research in terms of the achievement of the research objectives set out in Section 1.2, and the original contributions to knowledge of the research;
- Section 8.2 outlines recommendations for further research.

8.1.1 Achievement of objectives

Objective 1: To develop a conceptual framework for project stakeholder management

This objective was fulfilled in Chapter 4, based on the methodology in Chapter 3. The purpose of this objective was to develop a conceptual framework as a lens to investigate the practice of project stakeholder management in public sector construction projects in Nigeria. To achieve that, critical review of the extant literature and body of knowledge on project success, project life cycle and project stakeholder management process and

content analysis of the issues in project stakeholder management were undertaken. Findings from the reviews and content analysis reveal relationship between project success and project stakeholders and project stakeholder management across the project life cycle. Consequently, a generic project stakeholder management process model by Cleland (1986), Cleland (1988), Cleland (1998), Cleland and Ireland (2002), and Cleland and Ireland (2007) was adopted. However, to increase the understanding of the process and for systematic, practical and effective guidance on the application of the model, it has been considered important to integrate input/output elements to the process. These include participants and their qualifications in the stakeholder management process and the techniques and outputs of the stakeholder management process - all of which have received little/no attention in current literature about and practice of stakeholder management.

Thus, it is revealed that the process that has been followed in this research involved the development of a robust generic conceptual framework. This is a unique generic conceptual framework that is theoretically robust, which application is not specific only to the context of Nigerian public sector construction project management, but any organisation managing stakeholders on projects. It was rigorously developed to enable effective project stakeholder management process.

Objective 2: Using the conceptual framework in objective (i), to evaluate the practice of stakeholder management in the public sector construction projects in Nigeria

Fulfilment of this objective as shown in Chapters 5 and 6 was based on the methodology specified in Chapter 3. To achieve the objective, empirical data based on the conceptual framework developed in Chapter 4 and argued in Chapter 3 were required from the case studies. Also, the analysis of the data and critical interpretations of the results were required. Consequently, the empirical data were gathered using multiple case study approach involving four public sector organisations (universities) in Nigeria. The empirical data which included both qualitative and quantitative data were gathered using multiple sources of evidence involving face-to-face and telephone semi-structured interviews, project documents and observations. Multiple sources techniques were considered to obtain the primary data from the field that represent the practice of project and stakeholder management. The data gathered were categorised into themes

on the practice of project and stakeholder management and analysed by comparing with what exist in the literature and body of knowledge. The themes include: understanding of the concepts of project success, criteria for measuring project success, project objectives, project life cycle, project stakeholder, and project stakeholder management, to establish research participants' breadth and depth of understanding of the theoretical concepts of project and stakeholder management. Others include the case studies projects' factual data to understand the project management teams' awareness of the projects' data.

The results revealed lack of broad and deep knowledge/understanding of basic concepts of project and stakeholder management by the research participants (or PM teams), poor awareness of project information/data (projects' factual data) as well as project management information/data documentation and management systems. The implications of these is limited competence of PM teams to manage projects and stakeholders effectively and successfully. Also, these imply lack of project data/information for reference and guidance for effective and successful project and stakeholder management by the PM teams, to achieve project objectives. Consequently, these show poor practice of project and stakeholder management which could hinder the achievement of project success. Therefore, the consideration of these issues in any proposal have potential to facilitate project success.

Objective 3: Based on objective (ii), to analyse the strengths and/or weaknesses relating to the management of stakeholders in the public sector construction projects in Nigeria

This objective which was achieved in Chapter 6, set out to analyse the data gathered from the empirical study as presented in Chapter 5. It was to determine the strengths and/or weaknesses relating to the practice of stakeholder management. To achieve that, the data were categorised into themes as nodes according to the project stakeholder management process and considering across the process the participants and their qualifications in the stakeholder management processes and the techniques and outputs of the stakeholder management process across three-phase project life cycle, by the research participants and organisations. Using NVivo 9 as a computer aided qualitative data analysis software and extant theories from the literatures and body of knowledge as

mentioned in Chapter 3, the data were analysed. Analysis of the data showed non-existence of project stakeholder management process as well the consideration of the participants and their qualifications in the stakeholder management processes and the techniques and outputs of the stakeholder management process.

Therefore, these reveal weaknesses or shortcomings to stakeholder management process. Firstly, this imply lack of formal project stakeholder management process for guidance, therefore each PM team member could have managed the project stakeholders based on their discretion and intuition without synergy in the organisations. Thus no system for assessment and accountability. Secondly, no recognised participants for the project stakeholder management, and the bases for participation are not understood, as well as the techniques of the stakeholder management process and the outputs expected. Consequently, an integrated framework which include a formal, systematic and practical project stakeholder management process; taking into consideration the participants and their qualifications, techniques and outputs of the project stakeholder management process, project management knowledge and competence of the participants and project management information system; across the project phases to ensure effective management of project stakeholders is considered, to facilitate project success.

Objective 4: On the bases of objectives (i) – (iii), to develop and evaluate an integrated framework to contribute to the improvement of project stakeholder management in the public sector construction projects in Nigeria

This objective, fulfilled in Chapter 7, set out to develop and evaluate an integrated framework that could improve project stakeholder management and facilitate project success. To achieve that, several project stakeholder management process models from the extant literature and body of knowledge as shown in Sections 4.3, 4.4 and 7.1.1 were reviewed and considered. Also, project life cycle phases as shown in Sections 2.4.2, 4.2 and 7.1.2 were reviewed and considered. Furthermore, the extant literature and body of knowledge were referred to for guidance and sources of project management knowledge and competences to equip the project management teams (or participants) with the requisite knowledge and competences to efficiently and effectively manage projects and stakeholders. These were necessary due to the weaknesses of the project management teams from the cases demonstrating broad and

deep understanding of the concepts of project and project stakeholder management. Furthermore, guidance was sought from the review of the literature for a system of project information/data management as a result of the poor project management information system from the empirical studies. Consequently, a seven-step project stakeholder management process model by Cleland (1988) and Cleland and Ireland (2002) considering the participants in the stakeholder management processes; qualifications of participants in stakeholder management; techniques of stakeholder management; and outputs of the stakeholder management process is adapted for the integrated framework for the management of project stakeholders in the public sector in Nigeria. Also, a three-phase project life cycle that provides means of progressive delivery of expected outputs of a project is considered and adapted for the process of project stakeholder management for the integrated framework. In addition, the integrated framework recognises the relevance of project management knowledge and competence to the project management teams to effectively manage the project stakeholders, therefore adapts project management knowledge and competence areas as shown in Table 7.1 in Chapter 7 for the different levels of the participants in the stakeholder management process. Furthermore, a system of project information/data management is considered for documentation and management of project management information/data. Consequently, a robust and unique integrated framework was developed and evaluated by the expected beneficiaries of the framework and other experts involved and familiar with project and project stakeholder management in the case studies, using questionnaire survey administered online. Evaluation of the framework show its acceptance, to improve the management of project stakeholders and facilitate project success.

Consequently, this research has developed a robust and unique integrated framework that has taken into account all existing knowledge. It brings together coherent ideas that adds on things that exist, and brings them together in a consistent and more appropriate way. This can subsequently be used not only in the case studies in Nigeria, but can be used in other places in Nigeria and beyond with prudence. Therefore, in addition to improving effective project stakeholder management and facilitating project success in public sector construction projects in Nigeria, this robust and unique integrated framework has added to the existing approaches for project stakeholder management,

thus, a new knowledge to the existing literature and body of knowledge in project management.

8.1.2 Original contributions to knowledge

Originality in research can be achieved in any one of a number of possible ways (Francis, 1976). According to Phillips (1992), Phillips (1993), Phillips and Pugh (2005), and Phillips and Pugh (2010), any of the following is sufficient to claim original contribution to knowledge:

- Doing any empirical work that has not been done before;
- Making a synthesis that has not been made before;
- Using already known material but with a new interpretation;
- Trying out something that has previously only been done somewhere in another place;
- Taking a particular technique and applying it in a new area;
- Bringing new evidence to bear on an old issue;
- Being cross-disciplinary and using different methodologies;
- Looking at areas that others in the discipline have not looked at before; and
- Adding to knowledge in a way that has not been previously done.

Also, Francis (1976) in Phillips and Pugh (2005) and Phillips and Pugh (2010) note that any research that shows any of the following may be considered to have demonstrated originality.

- Setting down a major piece of new information in writing for the first time;
- Continuing a previously original piece of work;
- Providing a single original technique, observation, or result in an otherwise unoriginal but competent piece of research; and
- Showing originality in testing somebody else's idea.

It is shown that some of the findings in this research have established expectations from existing literature and body of knowledge which have been consistently stressed throughout the thesis. For instance, Sections 2.2 and 2.3 have emphasised the importance of project success in project management. Section 2.4 further presented the

concept of project stakeholder management in project success; thus showing the interrelationships existing between project success and project management and project success and stakeholder management, which is synthesised in Section 4.1. Therefore these show that key to project success, measured in terms of the achievement of project objectives or success criteria depend on stakeholders – stakeholder management. However, as shown in Section 2.1 and 2.2, project success in the public sector in Nigeria is hindered by issues related to project stakeholders, thus project stakeholder management. These findings or correlations are of interest because they provide a new holistic way of viewing and understanding of engineering and construction management problems, for a unique solution that could have a multi-dimensional effect.

Consequently, three main original contributions outlined in this section are considered unique to this thesis because they represent original works that have not been undertaken before and offer new ways of viewing a demanding challenge. Thus, the first contribution to knowledge in this thesis is the generic conceptual framework developed for project stakeholder management. It has taken into account all existing knowledge, which is not context specific but generic. The conceptual framework brings together coherent ideas that adds on things that exist, but brings them together in a consistent and more appropriate way. This, which could be subsequently used in the case studies in Nigeria could also be used by other organisations in Nigeria and beyond. The originality of this conceptual framework is based on the fact that an already known material (project stakeholder management process model) but with a new interpretation (consideration of participants and their qualifications in stakeholder management and the techniques and outputs of the stakeholder management process) has been used to look at areas that others in the discipline have not looked at before (efficient and effective project stakeholder management). The conceptual framework developed for effective project stakeholder management could increase our understanding of project stakeholder management process, emphasised by the consideration for participants and their qualifications, as well as the techniques and outputs of the stakeholder management process. Also, the application of this conceptual framework on the management of project stakeholders could improve the efficiency of process and therefore facilitate project success. This is because it has been developed to be practical in application due the consideration of the participants and their qualifications in

stakeholder management and the techniques and outputs of the stakeholder management process.

The second contribution to knowledge demonstrated in this thesis is the empirical studies which is the first empirical work that has been done on project stakeholder management within the context of Nigeria, especially the public sector or case studies. No evidence of such empirical study about Nigeria, especially the public sector or case studies has been reported in the literature and body of knowledge. Also, the findings from the empirical studies have revealed that this empirical study was the first of its kind from the case studies and Nigerian public sector. Thus, these empirical studies have revealed issues that could hinder project success, therefore increasing our understanding of how to achieve project success in the public sector projects in Nigeria.

The third contribution to knowledge in this thesis is the integrated framework, a robustly unique and theoretically rigorous framework for managing project stakeholders. Apart from the fact that this integrated framework is new within the context of the Nigerian public sector project management environment, the synthesis demonstrated in the development of the framework has not been done before. The major gap highlighted throughout in this thesis is the need to facilitate project success in Nigerian public sector construction project management through improved project stakeholder management. While organisations in the public sector in Nigeria have been involved with project and stakeholder management, systematic or formal project stakeholder management process has not been established, which show weakness in the process, thus the need for a theory to underpin this trend. Also established is poor system of project management information/data documentation which offer no reference or access to project information/data for effective management. Furthermore, it has been established that the project management teams involved in the management of projects and stakeholders lack broad and deep understanding of the concepts of project and stakeholder management which could affect their competence to manage projects and project stakeholders. Consequently, the novelty of the integrated framework developed in this thesis is in the manner in which the components that make up the framework have been synthesised and integrated to fulfil the practical needs of public sector clients while being theoretically rigorous. Also theoretically, the

developed integrated framework has brought together coherent ideas that existed before in a consistent and appropriate way, which have added to existing knowledge.

Furthermore, the individual contributions together have made a bigger contribution. Thus, not only have we had the better understanding of the practice of project stakeholder management in public sector construction projects in Nigeria, but we now also have a mechanism for influencing and improving things that did not exist before.

8.2 Recommendations and further Research

Despite the limitations of the research, as mentioned in Section 1.5, the strengths of the research still remain. The limitations do not detract from the strengths, but have merely opened opportunities for future research, as suggested below.

- The findings and proposals from this research will be forwarded as recommendations to the four cases studies as earlier agreed during the process of gathering data. This is to ensure follow-up on the findings and proposals.
- The findings and proposals in the research are recommended for implementation by the four case studies. This is to apply and document the processes outlined in the integrated framework on real live projects; to assess the financial implications, as well as to determine the applicability of the integrated framework to improve the management of project stakeholders and to facilitate project success.
- Although the integrated framework is developed using data from four selected universities, it may be applied with prudence, by other universities and public sectors managing projects. Thus, it is recommended to other universities and other public sector organisations.
- Further empirical studies in other universities, public sub-sector projects and organisations using case studies or other approaches are required to further understand the practice of project stakeholder management, as well as to generalise the findings and proposals.
- Although some of the comments made on evaluation of the integrated framework were considered isolated positions of the research participants and could not have affected the strength of the developed integrated framework, however, they are therefore recommended for further study. These include

assessment of the cost implication of applying the integrated framework on real live projects and review of the implementation of the integrated framework over a certain period of time compared to when the integrated framework was not in place

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Appendices

Appendix A: Advance Research General Information Briefing

This study and the information and access sought are part of a PhD research at University of Leeds in UK by Audu Isa Ibrahim Dakas under the supervisions of Professor Denise Bower and Dr Apollo Tutesigensi.

Brief Background to the Research

The review of the literature shows that stakeholder management is one of the issues affecting the success of projects. This is because projects are sensitive to the actions and inactions and decisions of its stakeholders, which are amplified in the public sector, due to the numerous stakeholders and stakes. The large number of stakeholders presents numerous interface, complexity, and uncertainty for the management of the projects. Thus, projects exist in the context that stakeholders contribute to their success; therefore, the success of a project is dependent on the effective management of its stakeholders.

Other issues found in the literature which affect project stakeholder management and project success are the project's objectives and project life cycle phases. The management of project stakeholders also implies that a project is described in terms of the individuals (or group of individuals) and institutions (or group of institutions) that share a stake or interest in the project. Stakeholder management is therefore the process of managing the individuals and groups who have interest in the project, in order to align their interests and stakes and the objectives of the project for the success of the project.

However, the literatures and researches reveal flaws in the current practice which requires the consideration of issues such as: participants in the stakeholder management processes, qualification of participants in stakeholder management, appropriate project life cycle stage for effective stakeholder management, techniques of stakeholder management, and outputs of the stakeholder management process – all of which receive little/no attention in current literature about, and practice of, stakeholder management.

This research therefore seeks to understand the issues mentioned above on stakeholder management in the construction of public sector projects in Nigeria. This will involve investigating projects at pre-construction, construction and post-construction phases, and to propose a suitable and effective approach for the management of the stakeholders.

Research Aim and Primary Question

The aim of this research is: *To develop an integrated framework to contribute to the improvement of project stakeholder management to facilitate project success in the public sector in Nigeria.*

In order to achieve the research aim, the specific objectives of the research are:

(i) To develop a conceptual model for the management of project stakeholders.

(ii) Using the conceptual model in objective (i) above, to evaluate the current practice of project stakeholder management in the public sector in Nigeria.

(iii) Based on objective (ii) above, to analyse the strengths and weaknesses relating to the management of project stakeholders in the public sector in Nigeria.

(iv) On the bases of objectives (i) – (iii) above, to propose and evaluate an integrated framework to contribute to the improvement of project stakeholder management to facilitate project success in the public sector in Nigeria.

The primary research question for the study is: *"How can project success in the public sector projects in Nigeria be facilitated?"* and the secondary research question is *"How can the understanding of the current practice of stakeholder management in public sector projects in Nigeria be used to improve project stakeholder management to facilitate project success?"*

What are required from your organisation?

Your organisation has been chosen as one of the cases for the conduct of this research, and as such, your participation will involve the provision of access to projects and relevant information and individuals for interviews. The information that will be required includes:

- Organisational charts and records;
- Annual reports and performance related reports;
- Press releases and newsletters;
- Projects' meeting minutes and other relevant records;
- Other statutory committees/boards meeting minutes related to the projects;
- Selected presentations; and
- Relevant literature in the public domain.

The information can be categorised into:

- Documentation, for letters of invitation for project meetings, memoranda on projects, agendas for project meetings, announcements concerning projects, minutes of meetings on projects, written reports on projects, and other communiqués on projects.
- Archival records, for service records showing project clients served over a period of time; organisational records such as organisational charts; list of names and other relevant project items; and project records such as diaries and calendars.
- Other projects' records such as factual data and key performance indicators (KPIs).

The individuals and/or groups will be required at the levels of:

- University Tenders' Board;
- Procurement Planning Committee;

- Pre-qualification Evaluation Committee;
- Price Control Unit; and
- Physical Facilities Directorate.

The time estimated for each interview is 1-2 hours, to hold anywhere convenient to the individuals or groups, such as the office and the project site. The interview is to be semi-structured, and as such, more questions could come up and more information could be required and added.

The benefit of the research to your organisation

The most important benefit of your contribution(s) to this research is the advancement of knowledge, while the particular benefit of the research to your organisation may be:

Short term – you will be provided with the evaluation report of the interviews.

Medium term – the publications that will be released from this research can be accessed by your organisation.

Long term – your organisation will have access to the research findings, which may help to improve your stakeholder management strategy or process.

Confidentiality

This is to assure you that all interview records and other information obtained from you and your organisation will be treated with the utmost confidentiality, in compliance with confidentiality agreement. In addition, cases will not be cited in any publication without your approval. Your confidentiality has been covered by the University of Leeds' confidentiality and ethical review guarantee and you will be required to sign a consent form prior to the actual data collection.

Information Sheet

Study title: Management of project stakeholders: Facilitating project success in public sector projects in Nigeria

1. **What is the purpose of this study?**

The aim of the research is *to develop an integrated framework to contribute to the improvement of project stakeholder management to facilitate project success in the public sector in Nigeria.*

2. **Do I have to take part?**

You do not have to take part in the study and you are not entitled to take part, but your participation is voluntary. If you do participate, you also have the right to withdraw from the study at any time. Your comments and views will remain anonymous.

3. **How do I complete the questionnaire?**

You do not have questionnaire to fill in this study. The research is in interview form, where the researcher will ask you questions and you give answers while the researcher transcribes your answers; observations; and sourcing of data from documents. The interview may also be recorded, but with your permission. You will also have the opportunity to ask questions, especially for clarification. All this will happen within convenient time say 1 -2 hours.

4. **Will my taking part in this study be kept confidential?**

Yes, your taking part will be kept confidential.

5. **What's in it for me?**

The benefit will be in form of improving the management of project stakeholders for success in the public sector in Nigeria .This will be useful for you, as it will help you on understanding how to manage the stakeholders on your projects effectively.

6. **Results of the study?**

Your views and those of other participants in the study will be analysed, which will inform the kind of framework that will be developed for the effective management of stakeholders for project success. The results will also be used to publish papers in journal for knowledge dissemination. However, your comments and views will remain anonymous.

7. **Who has reviewed the study?**

The study has been reviewed by University of Leeds Research Ethics Committee.

8. **Consent**

The attached is a consent form for your consent for the study.

Contact details for further information:

For further information about this research, please contact Audu Dakas on +447879704608 (UK), +2348097802966 (Nig.); or email to cnaiid@leeds.ac.uk or a_dakasa@yahoo.co.uk

Thank you for your time,

Lead Researcher: Audu Dakas

Supervisors: Professor Denise Bower (D.A.Bower@leeds.ac.uk) and Dr Apollo Tutesigensi (A.Tutesigensi@leeds.ac.uk)

Appendix B: Consent Form for Participants

Consent to take part in the research entitled: **Management of project stakeholders: Facilitating project success in public sector projects in Nigeria.**

Principal Investigator: Audu Dakas
Student ID Number: 200448734

	Add your initials next to the statements you agree with in the box below
I confirm that I have read and understand the participant information sheet dated .....……..explaining the above research project and I have had the opportunity to ask questions and discuss the research project.	
I have received satisfactory answers to all of my questions.	
I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline.	
I agree that my interview may be audio-recorded.	
I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline. [Contacts of lead researcher: cnaiid@leeds.ac.uk; +234(0)8097802966 (Nig.); +44(0)7879704608 (UK)]	
I agree that any information/data that I give may be included in published documents and may be used in relevant future research, but all information/data will be anonymous.	
I agree to take part in the above research project and will inform the lead researcher should my contact details change.	
Participant Signature Date	
Name of Participant	
Researcher Signature Date	
Name of Researcher	

Once this has been signed by all parties the participant should receive a copy of the signed and dated participant consent form, the letter/ pre-written script/ information sheet and any other written information provided to the participants. A copy of the signed and dated consent form should be kept with the project's main documents which must be kept in a secure location.

Appendix C: Research Interview Questions

Section A: Research participants' experience

The essence of these questions is to know the position of the interviewee in the organisation and the interviewee's experience

1. What position do you hold in this organisation?
2. How many years have you spent in this position and in this organisation?
3. What projects have you been involved with in this organisation in:
    - Pre-construction phase (stages from initiation to award of contract)?
    - Construction phase (stages after award of contract to hand-over)?
    - Post-construction phase (stages after hand-over to close-down)?

Section B: Basic concepts of project and stakeholder management

This section seeks to evaluate the interviewee's understanding/knowledge of some basic concepts related to the research

1. What is your understanding of (or How would you describe) project objectives?
2. What is your understanding of (or How would you describe) project success?
3. What is your understanding of (or How would you describe) project stakeholder?
4. What is your understanding of (or How would you describe) project stakeholder management?
5. What is your understanding of (or How would you describe) project life cycle?

Section C: Factual data about case studies projects

This section seeks to understand the factual data about the case study project

1. Which project are we talking for this interview and at what phase is it, considering pre-construction, construction and post-construction?
2. What are the objectives of the project?
3. What criteria are set for measuring the project's success?
4. What is/was the estimated cost of the project?
5. What is/was the actual cost of the project?
6. If not achieved at the estimated cost, what would you say caused the cost overrun?
7. How do (did) you handle (d) the cost overrun issues?

8. What is/was the estimated duration of the project?
9. What is/was the actual duration of the project?
10. If not achieved at the estimated duration, what would you say caused the time overrun?
11. How do (did) you handle (d) the time overrun issues?
12. What are/were the specifications of the project?
13. How would you describe the achievement of the project's specifications?
14. If not achieved as specified, what would you say caused it?
15. How did you handle the project's specifications issues?
16. How would you describe the performance of the project?
17. If not satisfactory, what would you say caused it?
18. How did you handle the project's performance issues?
19. How would you describe the quality of the project?
20. If not satisfactory, what would you say caused it?
21. How did you handle the project's quality issues?
22. How would you describe the satisfaction of all the project's stakeholders about the project?
23. If not satisfactory, what would you say caused it?
24. How would you describe how you handle the project's stakeholders' satisfaction issues?

Section D: Stakeholder management process

The section seeks to understand the practice of project stakeholder management, using the conceptual model developed, considering the improvement to the process of project stakeholder management.

1. Identification of stakeholders

(a). Who are the participants that identify the stakeholders?

(b) How would you describe (or what are) the qualifications of the participants that identify the stakeholders?

(c) How would you describe (or what are) the techniques of identifying the stakeholders?

(d) How would you describe (or what are) the outputs of identifying the stakeholders?

2. Gathering and analysing stakeholders' information

(a). Who are the participants that gather and analyse the stakeholders information?

(b) How would you describe (or what are) the qualifications of the participants that gather and analyse the stakeholders information?

(c) How would you describe (or what are) the techniques of gathering and analysing the stakeholders information?

(d) How would you describe (or what are) the outputs of gathering and analysing the stakeholders information?

3. Identifying stakeholders' missions

(a). Who are the participants that identify the stakeholders' missions?

(b) How would you describe (or what are) the qualifications of the participants that identify the stakeholders' missions?

(c) How would you describe (or what are) the techniques of identifying the stakeholders' missions?

(d) How would you describe (or what are) the outputs of identifying the stakeholders' missions?

4. Determining stakeholders' strengths and weaknesses

(a). Who are the participants that determine the stakeholders' strengths and weaknesses?

(b) How would you describe (or what are) the qualifications of the participants that determine the stakeholders' strengths and weaknesses?

(c) How would you describe (or what are) the techniques of determining the stakeholders' strengths and weaknesses?

(d) How would you describe (or what are) the outputs of determining the stakeholders' strengths and weaknesses?

5. Identifying stakeholders' strategies

(a). Who are the participants that identify the stakeholders' strategies?

(b) How would you describe (or what are) the qualifications of the participants that identify the stakeholders' strategies?

(c) How would you describe (or what are) the techniques of identifying the stakeholders' strategies?

(d) How would you describe (or what are) the outputs of identifying the stakeholders' strategies?

6. Predicting stakeholders' behaviours

(a). Who are the participants that predict the stakeholders' behaviours?

(b) How would you describe (or what are) the qualifications of the participants that predict the stakeholders' behaviours?

(c) How would you describe (or what are) the techniques of predicting the stakeholders' behaviours?

(d) How would you describe (or what are) the outputs of predicting the stakeholders' behaviours?

7. Developing and implementing stakeholders' management strategies

(a). Who are the participants that implement the stakeholders' management strategies?

(b) How would you describe (or what are) the qualifications of the participants that implement the stakeholders' management strategies?

(c) How would you describe (or what are) the techniques of implementing the stakeholders' management strategies?

(d) How would you describe (or what are) the outputs of implementing the stakeholders' management strategies?

Appendix D: Case Studies Research Interview Responses

Table D1 Participants' experience for case study A

Participant	Position (org)	Years (pos)	Years (org)	Projects (pre-)	Projects (const)	Projects (post-)
Inv-BD-DDR-180612-A	Deputy Director	9	28	Unassigned, quite a lot	Unassigned, Quite a lot	Unassigned, Many
Inv-KM-PAR-240512-A	Principal Architect	9	21	Unassigned, many	Unassigned, Many	Unassigned, Few
Inv-PB-CAR-280512-A	Chief Architect/Head of Planning & Design	1.5	1.5	Unassigned, about 10	Unassigned, Involved	Unassigned, Occasionally
Inv-PY-DDR-140612-A	Deputy Director	3	17	Unassigned, about 5	Unassigned, Many	Unassigned, Many
Inv-TA-SAR-280512-A	Senior Architect	2	2	Unassigned, couple	Unassigned, About 4	Unassigned, Occasionally

Table D2 Participants' experience for case study B

Participant	Position (org)	Years (pos)	Years (org)	Projects (pre-)	Projects (const)	Projects (post-)
Inv-IB-ADR-300512-B	Acting Director	2	5	Unassigned, quite many	Unassigned, many	All the university projects
Inv-GA-SQS-300512-B	Senior Quantity Surveyor/Chief Physical Planning Development Officer	3	3	Unassigned, so many	Unassigned, quite a number	Unassigned, a couple
Inv-MA-PTO-310512-B	Principal Technical Officer	1	11	Unassigned, many	Unassigned, many	Unassigned, all the university projects
Inv-WA-ARC-010612-B	Architect/Head of Drawing Office	2	2	Unassigned, many	Unassigned, few	Managed by another unit, mentioned few

Table D3 Participants' experience for case study C

Participant	Position (org)	Years (pos)	Years (org)	Projects (pre-)	Projects (const)	Projects (post-)
Inv-AM-SQS-040612-C	Senior Quantity Surveyor	3	5	3	Unassigned, mentioned 3	3
Inv-IM-DDR-060612-C	Deputy Director	7	22	Unassigned, so many	Unassigned	Unassigned, so many
Inv-MS-QSI-060612-C	Quantity Surveyor I	3	4	4	4	4
Inv-RS-ARC-050612-C	Architect	3	3	Unassigned, quite a number, 4	4	2
Inv-SA-CEN-060612-C	Civil Structural Engineer	2	2	4	Unassigned, many	Not involved, another unit

Table D4 Participant's experience for case study D

Participant	Position (org)	Years (pos)	Years (org)	Projects (pre-)	Projects (const)	Projects (post-)
Inv-JC-DDR-120612-D	Deputy Director	6	23	Unassigned, all	Unassigned, all	Unassigned, all

Table D5 Understanding of some key terms/concepts in project and stakeholder management for case study

Participant	Project objectives	Project success	Project stakeholder	Project stakeholder management	Project life cycle
Inv-BD-DDR-180612-A	The purpose of conceiving and executing a project	When a project is delivered on time and cost and to the satisfaction of the client and users	The people involved and concerned with a project, such as the client, supervisors, end users, and financier	Ensuring that stakeholders effectively contribute to the success of a project	The phases in a project's life cycle
Inv-KM-PAR-240512-A	The benefit of a project to the user	The execution of a project on time, cost, specification, and to the satisfaction of the users/beneficiaries	The direct or indirect participants on a project, such as designers, contractors, and end users/beneficiaries	Involving stakeholders in the management of a project at all stages of the project	The life span of a project
Inv-PB-CAR-280512-A	What is sought to be achieved by actualising a project	The delivery of a project on time, cost, and quality	The people involved with a project, such as initiators, sponsors, project management team, and end users	Aligning the interests of stakeholders to achieve the goal of a project	The development and the usage of a project across the stages in its life cycle
Inv-PY-DDR-140612-A	The goals a project is set to achieve	Conceiving, constructing, and completing a project on time and quality and for a purpose	Groups or participants involved with conception, award, construction, and maintenance of a project	Aligning the objectives of stakeholders and project and managing that in all the stages of the project	The processes that a project passes through from initiation to post-construction
Inv-TA-SAR-280512-A	The challenges a project passes through to be successful	The delivery of a project despite the challenges passed through	Relevant people in a project to make it a success, such as architects, contractors, client, and management team	Managing the stakeholders on a project to achieve the project's goal	The life span of a project from inception to maintenance and the contributions of the stakeholders to the success of the project

Table D6 Understanding of some key terms/concepts in project and stakeholder management for case study B

Participant	Project objectives	Project success	Project stakeholder	Project stakeholder management	Project life cycle
Inv-IB-ADR-300512-B	The objective is to serve a desired purpose or address a problem.	A project to meet and address the reasons for its existence; to meet its original concept; to be delivered on time, cost, and quality/specifications.	Project stakeholder is everybody that has to do with the project, either as a consultant, client project manager, financier or the final user.	Controlling the stakeholders; managing them; mediating amongst them	Project life cycle is the life of a project, from its concept to pre-construction to construction and to post-construction until demolition, at end of its life span.
Inv-GA-SQS-300512-B	The objective of a project is delivering it on time, at the right cost, and the right specifications.	When a contractor is able to deliver it on time, at the right cost, and with the right materials.	All the parties involved to make a project a success.	Everybody that is going to be part of the project, their input to make the project a success.	Managing a project at the construction stage and maintenance for a certain period or through the life span of the project.
Inv-MA-PTO-310512-B	The objective of any project is to serve the purpose for which it is meant.	Success of a project is delivering it on time, cost, and quality.	Stakeholders are the direct beneficiaries of a project, such as the consultant, the client, and the user.	People that manage a project; people that directly benefit on a project, in this case the client and the users.	Time within which a project can last, expect the project to last for end of time.
Inv-WA-ARC-010612-B	Project objectives are the things to check for proper aim of the project, to ensure proper monitoring.	Project success is completing a project without any problem.	Project stakeholders are the people that have a say on the project.	The management done by those that have a say in a project.	Continuity of a project.

Table D7 Understanding of some key terms/concepts in project and stakeholder management for case study C

Participant	Project objectives	Project success	Project stakeholder	Project stakeholder management	Project life cycle
Inv-AM-SQS-040612-C	The reasons for bringing the project into conception. Why do you need the project? What is the project used for?	A project is successful when the main objective of the project is achieved. All the stakeholders in the project are involved without any problem from the beginning of the project to its completion.	Project stakeholder is when all the people involved in the management of the project involved from the beginning and even the end users of the project are carried along the construction of that project, to know their needs and their requirements from the beginning of the project to its completion.	The management of all the parties involved in the project, taking them along during the construction of the project from its inception to its completion.	Project life cycle is all the phases involved in a project from its beginning to its end, which is the conception of the project to its final completion, even up to demolition.
Inv-IM-DDR-060612-C	The objective of a project is to have the project conceived, constructed and maintained to serve a purpose.	When a project is conceived and constructed to completion and handing over. A project that is conceived and constructed within the allowable construction period	Project stakeholder, can be viewed in several dimensions from the consultant engaged in the project, to the client ownership of the project and then the contractor also a stakeholder who has to work to the consultant's certification and then ultimately the user. These are all that congregate to form the stakeholders.	Project stakeholder management is the management of all the stages in a project, from conception to construction to handing over and the facility management.	Project life cycle is the life span of a project, total life span of a project.
Inv-MS-QSI-060612-C	The main purpose for which the project is constructed, the main purpose for embarking on the project, and then what it intends to achieve after completion.	Project success is the successful completion of a project despite the obstacles on its way.	There are many stakeholders to a project. It could be from the side of the client, the client himself is a stakeholder, it could be from the angle of the professionals involved, and the end users.	Stakeholder management is managing those individuals in a project.	The duration or the period within which a project is expected to be completed. The initial stage, which is inception, from design up to construction and completion. The duration that is specified for the construction of the project, may include after completion, the life span of that project. The expected life span of the project.
Inv-RS-ARC-050612-C	Project objectives are those things you would	This is how a project meets the needs of the	Project stakeholder are those people involved in the project, in ensuring	Stakeholder management is how to coordinate	Project life cycle is from inception to the end of the project when after

	want to get out of a project.	users and how well the users enjoy it.	that all professionals are properly coordinated so that the end result is what is supposed to be.	stakeholders and their activities on site or before the construction proper.	execution and everything and the end users enjoy the project.
Inv-SA-CEN-060612-C	Project objective is just your aim. What do you want to achieve out of that project? Why do you want to embark on such project?	This is the timely completion of a project and its financial viability.	Project stakeholders are those that are involved in a particular project from the conceptual stage to handing over of the project.	How to coordinate the stakeholders in a particular project to avoid conflict.	Project life cycle, are in stages, the conceptual stage, pre-design stage, design stage, then construction stage to handing over. It is like a cycle.

Table D8 Understanding of some key terms/concepts in project and stakeholder management for case study D

Participant	**Project objectives**	**Project success**	**Project stakeholder**	**Project stakeholder management**	**Project life cycle**
Inv-AM-SQS-040612-C	Project objective is the achievement of the project or the purpose of the project.	When a project had a purpose, that had been put to use, is it doing exactly as it was proposed to be.	Project stakeholders, are the principal participants in construction or the building of structures.	Well, like I said, the principal partners in the management of projects.	Life cycle; well life cycle essentially is, from the beginning perhaps ultimate use of, from the time perhaps ultimate use of the structure.

Table D9 Understanding of 'the project's' objectives for case study A

Participant	Response about understanding of 'the project's' objectives
Inv-BD-DDR-180612-A	A four-storey building initially designed to be the main library of the university, but due to the problem of space at the Bauchi road campus of the university, the project was redesigned, completed and temporarily converted to accommodate two faculties; Faculties of Art and Social Sciences and part of the main library.
Inv-KM-PAR-240512-A	The objective of the project is to provide office accommodation for the management staff of the university and their supporting staff. These include the Vice-Chancellor, the two Deputy Vice-Chancellors, and their support staff; the Registrar's office and the Registry Department, the Bursar's office and the Bursary Department; the University Librarian's office.
Inv-PB-CAR-280512-A	A project that will accommodate the new proposed Faculty of Agriculture. So establishing it is to be able to get the manpower that will boost agriculture within the state and the country in general.
Inv-PY-DDR-140612-A	The objectives of the indoor theatre sports complex is to create an avenue where students of the university will have facilities for indoor sports, because as compared to other Nigerian universities, there is no indoor sports theatre complex in this university. This is the reason the university is contemplating the construction of one.
Inv-TA-SAR-280512-A	The objective of this project is to provide a very relaxing and suitable structure and environment for the enlarged Faculty of Arts due to the introduction of the new Department of Theatre, Film and Communication Arts. It is also to provide a very good edifice for the university.

Table D10 Understanding of 'the project's' objectives for case study B

Participant	Response about understanding of 'the project's' objectives
Inv-IB-ADR-300512-B	Well the objective of the project was to serve as accommodation for the central administration of the university.
Inv-GA-SQS-300512-B	The primary aim of the project is to ensure that, the university has a theatre that can accommodate everybody during any occasion or function in the school.
Inv-MA-PTO-310512-B	The need for lecture rooms, because of the over population. The main objective is to provide space for lecture, because of the need for lecture theatres. Also, it is to be able to utilise the opportunity of getting grant from ETF (TETFund).
Inv-WA-ARC-010612-B	The objective of this project is to provide adequate teaching space for students and to provide a space for training the student lawyers, because it is theatre and moot court.

Table D11 Understanding of 'the project's' objectives for case study C

Participant	Response about understanding of 'the project's' objectives
Inv-AM-SQS-040612-C	The main objective of the project is to provide for the staff and students of School of Environmental Technology a conducive to learning environment in terms of classrooms and staff offices, due to the population of the students.
Inv-IM-DDR-060612-C	The idea of conceiving this campus in its entity is to decongest the other temporary campus. The objective is to move the facilities of the school to the permanent site and that has now been done successfully and the building is being utilised successfully by the school.
Inv-MS-QSI-060612-C	The objective was to provide classroom accommodation for the increasing number of the students' population. There are always inadequacies of lecture classrooms.
Inv-RS-ARC-050612-C	To ensure and enable students to be comfortable during exams when they are being tested e-wise, that is electronic testing centre, to ensure that they have adequate space and facilities for testing at the exams.
Inv-SA-CEN-060612-C	Not aware of the objective, because not the initiator of the project. The VC has special interest in information technology, to have School of Information and Communication Technology and six departments of which Cyber Security is one of them.

Table D12 Understanding of 'the project's' objectives for case study D

Participant	Response about understanding of 'the project's' objectives
Inv-JC1-DDR-120612-D	The objective actually is out of the need for more lecture theatres and studios. The university felt the need for more studios and more lecture theatres to accommodate the increasing number of students.
Inv-JC2-DDR-120612-D	The projects are for School of Agric and Agric Technology and they are essentially five blocks of buildings. The four blocks of buildings are to accommodate eight departments of School of Agric, and then one building is to accommodate the Deanery of the School of Agric. So they are structures that will house the whole School of Agric, and the idea is for a School of Agric to have its own building. The building is tagged "Food Security" and the idea is may be to develop the School of Agric much better to cater for insecurity of food in this country. The idea is to develop the School of Agric very well to be able to contribute much more to this country, which is why it is geared towards School of Agric. So the idea is basically to house all the eight departments in School of Agric and the Deanery of the School of Agric.
Inv-JC3-DDR-120612-D	The classrooms and offices project was due to the need to house the Consultancy unit particularly, because the students are off-campus students and they usually disturb the university more than the regular students, and so there was the need to have a structure for them. So the idea was to have the structure a little bit away from the main campus,

	which can be seen outside there on the way to the city centre. It is a one-storey building on the way to the city centre for the students to attend their lectures there and go back without disturbing the regular students.

Table D13 Criteria for measuring 'the project's' success for case study A

Participant	**Response about the criteria for measuring 'the project's' success**
Inv-BD-DDR-180612-A	Actually it is successful because it has successfully accommodated the two faculties and also part of the library. However, permanent structures are being constructed for some of the departments using the project in order to vacate for the main library.
Inv-KM-PAR-240512-A	There is a programme of work for the project which is being reviewed on a regular monthly meeting with the consultants. This is to ensure that the work on the project is executed according to the plan. However, on a daily basis, the project is also supervised and monitored to ensure that the specifications are adhered to and the quality ensured. This is to have at the end, a very good and successful project delivered in terms of quality.
Inv-PB-CAR-280512-A	This started by ensuring that an attractive project to prospective sponsors/financiers was chosen and how to raise the funds for the project. Thus, getting sponsors/financiers for the project is the first yardstick for measuring the project's success. Also, the ability to raise a project management team to manage the project from its inception to completion is another yardstick for measuring the success. Furthermore, the delivering the project on time and at the required quality are the criteria for measuring the success.
Inv-PY-DDR-140612-A	Well the criteria that is put in place is first, the visit to similar institutions to study what exist in their indoor sports complexes, which gave the basis to conceive how indoor sports complex looks like. With the number of courses and number of students in the university, an adequate indoor sport complex can be designed to achieve the objective. So these are the strategies adopted in order to be successful in achieving the indoor sports complex.
Inv-TA-SAR-280512-A	One of the major criteria is the supervision, the checks and balances. The contractor is checked to monitor the work, the materials brought to site by the contractor are checked, and the method of construction is checked on behalf of the client (as the client's representatives) and the consultants since they are not always on ground.

Table D14 Criteria for measuring 'the project's' success for case study B

Participant	**Response about the criteria for measuring 'the project's' success**
Inv-IB-ADR-300512-B	No any criteria in place that are used to monitor whether the rehabilitation is carried out, whether successfully or not. However, the report at the handover of the project showed that the project was successful. Of course after the execution of the project the normal handover inspection was done and that was the level at which the professionals involved will have to decide whether the objectives of the project has been achieved.

Inv-GA-SQS-300512-B	Engagement of consultants; the architects, quantity surveyors, civil engineers, mechanical and electrical engineers. The right materials have been specified and the quantity surveyor has done a good job to ensure that the contractor doesn't have any problem with specifications. The site has been selected devoid of any problem. The sponsors of this project have assured that the funds are there.
Inv-MA-PTO-310512-B	From the selection of the consultants that will manage the supervision, execution and then completion of the project. Ensure that the money is there. Creation of conducive to atmosphere for the contractor to work.
Inv-WA-ARC-010612-B	For the success of this project, selecting the consultants and proper monitoring.

Table D15 Criteria for measuring 'the project's' success for case study C

Participant	**Response about the criteria for measuring 'the project's' success**
Inv-AM-SQS-040612-C	Completing the project was the main criterion for measuring the success of the project, although the project was delivered to specifications for the users.
Inv-IM-DDR-060612-C	Funding play a very fundamental role on the success of any project and that project suffered from the lack of funding.
Inv-MS-QSI-060612-C	Timely completion, quality and at no financial constraints on the part of client was the criteria for success measurement.
Inv-RS-ARC-050612-C	Delivering the physical asset to specification to meet the requirements of the client and the users was the criterion.
Inv-SA-CEN-060612-C	Ensuring that the process from the design of the project to completion was monitored, as well as ensuring that the duration of the project, quality, and specifications were adequate.

Table D16 Criteria for measuring 'the project's' success for case study D

Participant	**Response about criteria for measuring 'the project's' success**
Inv-JC1-DDR-120612-D	There is a functional design which will be restricted within the budget of what is being expected. The project will be located at the appropriate place that will be more useful and more efficient. All the concerned people, all the stakeholders are informed to be ready, because this project is coming. So all those ones are arrangements geared towards making sure it succeeds.
Inv-JC2-DDR-120612-D	There is a solid design and the funds for the project will be sought, if there is no available money. All the stakeholders' project monitoring committee is in place to make sure everything is achieved.
Inv-JC3-	The criteria that are set are the objective, the reason to build, the need for that building,

DDR-120612-D	the design, money was sourced and then all stakeholders put their heads together to bring up the structure.

Table D17 Cost of 'the project' for case study A

Participant	**Response about the cost of 'the project'**
Inv-BD-DDR-180612-A	That has to be checked in the file. The actual cost was far above the initial cost, because the project lasted for over twenty years. By then inflation has set in and also because of the change in the concept. Also, initially, the partitioning was to be of burnt bricks, but because of the number of partitions that were created as a result of the offices, lighter material, which is particle board, was used. Well, it is the time and the change in concept. Also, the project was suspended because federal government ceased to fund capital projects in Nigeria, due to lack of funds for capital project.
Inv-KM-PAR-240512-A	This is a 'classified' document, so the figure cannot be released, but is over N900m. The amount put into the project so far is in order. Also, government regulations such as the recent petroleum products price change affect the cost of construction, especially labour. So at the end of the day, some fluctuation for labour and material are inevitable from the contractors. To manage this, it will be ensured that the contractors keep proper record about the project and pay contractors for only work done and materials procured and secured to site, and not to value any items that were not done.
Inv-PB-CAR-280512-A	The estimated cost of this project with even furnishing and equipping of the faculty will cost about N1.1b. At this level, the work has reached the point of producing the preliminary bill of quantities and the idea has been sold to the state government, which has promised to release money as a counterpart funding for the project to start. It is also hope that the federal government or the ETF (TETFund) will give the remaining counterpart funding. Definitely, the university because of its lean resources may not be able to give the other part of the funding of the project.
Inv-PY-DDR-140612-A	This has to be checked in the records later. Presently, the architectural design has been completed. The other engineering designs are on-going; it will lead to the bills of quantities, before the process of award. So it is at design stage presently.
Inv-TA-SAR-280512-A	That has to be checked to avoid speculating the figure. Not sure the expenditure was commensurate to the proposed level of the work. The reason being that the project did not start on time and the price of building materials keep going up. Also, initially, the design was made on a levelled ground, but was discovered not to be levelled, so there will be variation at the substructure, filling and taking levels, which of course will affect the cost of the building. The cost will increase due to inflation in prices of materials and the extra work as a result of the site terrain. To reduce the extra cost, instead of introducing a basement, which will be more expensive, the building will be stepped, starting from the foundation.

Table D18 Cost of 'the project' for case study B

Participant	Response about the cost of 'the project'
Inv-IB-ADR-300512-B	About the cost, that will have to be gotten from the project files in the archive. Not aware of the initial cost, but believe that time things were better than what is obtained today, in terms of the economic stability, so the final cost will not be very far from the initial figure, although wouldn't say specifically. For the maintenance, there were two contracts, although the second contract was to take care of the problem of packaging in the first, because so many aspects of work were left out in the first contract.
Inv-GA-SQS-300512-B	The project is about N700m, not exact anyway.
Inv-MA-PTO-310512-B	Cannot be exact but about N130m. For the exact contract sum, that can be gotten later. It is going okay, there is no problem of variation, but don't know what will arise in future. So far so good, there is no serious complain to temper with the contract sum.
Inv-WA-ARC-010612-B	The exact figure is not known but is N204m, approximately. The project is going according to the cost, as the contractor is paid for work done, after valuation by the quantity surveyor.

Table D19 Cost of 'the project' for case study C

Participant	Response about the cost of 'the project'
Inv-AM-SQS-040612-C	The estimated and final cost of the project was about three hundred and sixty-one million naira only. The project was completed at the estimated cost because the contract agreement stated that the contract was non-fluctuating and there was no variation, and it was also properly managed.
Inv-IM-DDR-060612-C	The exact figure of the project cost is unknown, but one phase of the project was supposed to cost sixty-six million naira, but ended up costing between one hundred and fifty and one hundred and eighty million naira. The rise in the cost was because of abandonment for a very long time due to lack of funds. This further made inflation to affect it as a result of high rise of foreign exchange rate.
Inv-MS-QSI-060612-C	The contract cost could not be disclosed at that stage, as it was supposed to be confidential.
Inv-RS-ARC-050612-C	The cost of the project was unknown but the Quantity Surveyor is the better person to know the cost.
Inv-SA-CEN-060612-C	The project cost can only be accessed from the Quantity Surveyor; the financial position of the project is unknown.

Table D20 Cost of 'the project' for case study D

Participant	Response about cost of 'the project'
Inv-JC1-DDR-120612-D	It is N85m, the budget is N85m.
Inv-JC2-DDR-120612-D	It is N720m. The project and the cost go 'parri-passou'. Payments are made according to work done; it is commensurate, no cost overrun for now. No issues about cost, because it's a non-fluctuating contract, that is the agreement. The contract method was adopted to ensure the price is not going to change. To take care of unforeseen, the bill is made fairly comfortable for the contractor, at the time the work was estimated and at the time the construction started. It was made very clear to all the contractors to work very hard within the budget, and if there is going to be any inflation, it's not likely that extra money will be paid to them. It is part of the conditions which the contractors have accepted and they have been doing the work. Fortunately, it is not just any contractor that is engaged. Contractors are usually screened, to work with those that can actually do the work, preferably those who know the conditions. 98% of the contracts for the projects in the university had existed with those conditions, although there were one or two projects that had problems. Actually, in one of those, the contractor complained that it was not possible to complete the project with that particular money. In that particular contract what happened actually was that the contractor quoted below the cost price of the department's budget. The complaint went to council and the council reviewed and considered the case and then added small money to the contractor and the project is about to finish now.
Inv-JC3-DDR-120612-D	The estimated cost was N50m and the actual cost was N50m, it didn't change. Like other projects it is non-fluctuating, so the budget was stocked to.

Table D21 Duration of 'the project' for case study A

Participant	Response about the duration of 'the project'
Inv-BD-DDR-180612-A	Not sure of the duration but that could be checked in the file. There was difference between the estimated duration and the actual/final duration.
Inv-KM-PAR-240512-A	It was initially 92 weeks, but because of the insecurity it has gone beyond two years. To reduce the time overrun, the contractors are advised at various times, to plan weekly, monthly and are monitored them to ensure that, they carry out works that could be done concurrently. This was to make up for the time that was lost. This has been done periodically, which ensured the work to be at the level it is.
Inv-PB-CAR-280512-A	It is expected to last for about 60-65 weeks. At this level, it has reached the point of producing the preliminary bill of quantities, and the idea has been sold to the state government which has promised to release money as a counterpart funding for the project to start. It is also hoped that the federal government or the ETF (TETFund) will give the remaining counterpart funding. Definitely, the university because of its lean

	resources may not be able to give the other part of the funding of the project.
Inv-PY-DDR-140612-A	This will also be checked and given later. Presently, the architectural design has been completed. The other engineering designs are on-going; it will lead to the bills of quantities, before going into the process of award. So it is at design stage presently.
Inv-TA-SAR-280512-A	Not sure of the duration, but can be checked later. It is going according to the plan.

Table D22 Duration of 'the project' for case study B

Participant	**Response about the duration of 'the project'**
Inv-IB-ADR-300512-B	Not known exactly, but will also be in the record. The project file is not too far away. The actual completion period of the award can be compared with the final completion, the pre-handover, the time the contractor submitted invitation for pre-handover inspection. However, the two projects couldn't have been completed within the stipulated project period, there was time overrun. In all honesty it is the issue of management and contractor's attitudes. Contractors give time arbitrarily, mindless of the actual thing that is involved. They give programme which they are hardly going to be able to follow and achieve. That issue is something that has to be addressed. At tender stage contractors are hardly invited and interacted with, that's also another way. It is good to discuss with contractors on their needs and time, which should help.
Inv-GA-SQS-300512-B	It is expected that, at the end of the day, it is going to be opened to the contractors but looking at a year (52 weeks) at least. It shouldn't be less than 52 weeks.
Inv-MA-PTO-310512-B	The project started in November and based on what was agreed it is supposed to finish in May, that is six months, but it is still on. The cause may not be unconnected with the security in the country. Also, the contractor was having problem with his bank on how to get money. The contractor requested for extension of time and the consultants are looking at it to advise the client.
Inv-WA-ARC-010612-B	The estimated duration of the project is about one year. The contract period is lagging behind, due to the unforeseen site conditions and the slow pace of work by the contractor. The contractor has applied for extension of time which will be reviewed before approval.

Table D23 Duration of 'the project' for case study C

Participant	**Response about the duration of 'the project'**
Inv-AM-SQS-040612-C	The initial estimated duration was nine months and the actual duration was twelve months. The time overrun was due to lack of release of funds and unexpected site condition variation. The time overrun was managed due to proper supervision and cooperation of the contractor.
Inv-IM-DDR-060612-C	Uncertain about the estimated duration of the project. The duration of the project was initially estimated between thirty-four and forty weeks, however, due to the long

	abandonment, the project was started in 1992 and completed around 2004/2005. The time overrun was due to lack of funding, however, alternative sources of funding later came up and that was how the project was completed.
Inv-MS-QSI-060612-C	The execution of the project is expected to last for three months.
Inv-RS-ARC-050612-C	Project is at pre-construction phase and estimated to be completed in twelve months.
Inv-SA-CEN-060612-C	Unsure of the estimated duration of the project but about eleven months. The project is at the foundation level; however, the project is fifty-one weeks old. The time overrun is attributed to the contractor's slow pace of work. The time overrun is for the Director to decide, only concerned about supervision.

Table D24 Duration of 'the project' for case study D

Participant	**Response about duration of 'the project'**
Inv-JC1-DDR-120612-D	It is estimated at say 4 months, 4 to 6 months.
Inv-JC2-DDR-120612-D	The project was supposed to last four months, six months, but unfortunately it has run into two years now. This is so because it was in the 2010 budget, but nationwide 2010 budget was slashed by 40% and even the 40% was not gotten all, so it had to enter the 2011 budget which is being worked with now. Also, it is not likely that the 2011 budget will complete the project, but it's reasonably going to finish four of the blocks, so it is likely to go into 2012 budget to complete the last segment of the project. There was also delay in getting funds from the Federal Government. It is difficult to do anything because project depends on money released. In the past, the Federal Government would release the whole money or keep the money where it could be accessed easily, but nowadays, you have to apply and apply and wait and wait before the money comes, so this problem is likely to go on unless there is a policy change by the Federal Government.
Inv-JC3-DDR-120612-D	It was estimated for three months but completed in five months. This was due to delay in releasing funds from ETF. This can be avoided by making reports to ETF at appropriate time and then encouraging the contractor to go on with the work with the assurance to be reimbursed later, since there is the guarantee to get the money at the end. Sometimes the money is paid from the university's coffers and replaced when ETF released the money. This contractor went ahead, started and went to a very reasonable stage before asking for money.

Table D25 Key specifications of 'the project' for case study A

Participant	**Response about the key specifications of 'the project'**

Inv-BD-DDR-180612-A	The library was supposed to have a lift but that idea was changed because of the change in usage. Also, the issue of power fluctuation in Nigeria, the public source is not regular and it's very expensive running such facility on generator, and generator can only be operated during normal working hours, but because of some facilities in the library that should operate twenty-four hours. Although, ETF intervention of 2000 assisted with solar source of power, but even maintaining the solar system has been problematic, as it's not now functioning well. Generally, they are okay, they have satisfied the purpose, like the offices are there, but mostly because of the creation, most of the offices cannot be effectively used without electricity and there are two generators serving the building. But there is also the problem of maintaining the generators because of funding. At times faculties and departments are forced to have their own smaller generators that they can use to perform their routine office work, but are also not convenient due to the noise.
Inv-KM-PAR-240512-A	It is a frame structure with columns and beams to be infill with sandcrete blocks. The floor is of two parts; terrazzo and tile. The roofing is tuco-aluminium long span aluminium, then doors are fire proof doors and flush doors hung on metal frames. These are the key major work. Of course the trusses are steel. The specifications are within the limit, because any item that were brought, if they are not within the minimum requirement they were rejected and replaced.
Inv-PB-CAR-280512-A	Well, there are some key milestones to achieve in the course of the project. There is the preliminary design, that is a milestone and that has been achieved. Then production of the working drawings also and then the preliminary bill of quantities, that has been achieved. In the next 2 – 3 weeks, the complete bill of quantities will be ready, that is the estimated total cost of the project, not preliminary will be ready, because all the architectural working drawings have been completed. The structural drawings and then the mechanical and electrical drawings are being worked on, to be completed hopefully in the next one week. So by the next three weeks, the bill of quantities should be ready for the estimated total sum. So far, the coming intervention of the state government, has achieved 20% of the desired result for this particular project, because the government has pronounced that, and it is going to give part of the funding. It is satisfactory.
Inv-PY-DDR-140612-A	At this stage, the components of the project have to do with the multi-purpose field for all the sports. Others are the seating arena for spectators and then the entire complex to house the sport complex, it has a gallery.
Inv-TA-SAR-280512-A	One major thing is the spacing, because of the number of students that will be accommodated in it, it has court yard inside the building. Then of course, acoustics because of because of sound, as a result of the nature of the course, which has been taken care of in the design. So far the project's specification is fair. It will be ensured that the contractor doesn't compromise when it comes to the materials that are supposed to be used there.

Table D26 Key specifications of 'the project' for case study B

Participant	Response about the key specifications of 'the project'
Inv-IB-ADR-300512-B	The rehabilitation is to majorly control the level of decay in the building. So majorly is just the routine maintenance, or say the periodic maintenance. Well partly achieved, although there is still one of the issues that was part of the second phase of the contract still a very big challenge, that's peculiar to the eighth floor, first floor, third floor. Unfortunately the roof there is the concrete slab and over years it has failed as in leakages were battled for very long time.
Inv-GA-SQS-300512-B	Looking at the design, the roof is going to come out a different way. Inside, the seats will be imported and will be very beautiful current type of seats found in any theatre in the world. The finishing is aluminium type, will look very beautiful. The external works around it, there is parking for as much cars that will park. There are also some other attachments as computer centres.
Inv-MA-PTO-310512-B	Expect to see all the structural elements in place, the columns, and the beams. But what bring out the building are the doors and windows, the roof, the lecture theatre seats, the electrical appliances, and then the finishing. At the level the project is, the contractor has done well on the specifications, and it is because of the monitoring.
Inv-WA-ARC-010612-B	Quality is the major. Conventionally, all the specifications for the project are stated in the contract documents, that's the architectural design, working drawings, and the bill of quantity. The floor finish is going to be terrazzo finish, the doors and windows are to be glazed, the theatre seats to be more comfortable theatre seats, the roofing to be long span 0.7 gauge colour coated aluminium, the ceiling to be acoustic ceiling, the wall finishing with rendering and painting. These are the major specifications. The specification so far is satisfactory, because presently at the frame structures.

Table D27 Key specifications of 'the project' for case study C

Participant	Response about the key specifications of 'the project'
Inv-AM-SQS-040612-C	The specifications are the equipment and materials, such electrical air condition and electrical panels. The items specified in the contract documents were delivered.
Inv-IM-DDR-060612-C	The specifications were the fittings, fixtures, windows, paints, roofs, block work, floors, beams, and columns, and they were achieved. The specifications were achieved.
Inv-MS-QSI-060612-C	The project's specifications are the type of building, chairs, and tables, quality of work, painting colours, and roof colour. These are the proposed specifications.
Inv-RS-ARC-050612-C	The specifications are the floor finish, windows, and doors, wall finishing colour, roof type and colour, and structural elements.
Inv-SA-CEN-060612-C	The specifications are the space usage and allocation such as the lecture room spaces, toilet facilities, laboratories, offices, and library. The specification is marginally achieved.

Table D28 Key specifications of 'the project' for case study D

Participant	Response about key specifications of 'the project'
Inv-JC1-DDR-120612-D	The ceiling, the floor ceiling volume must be adequate, the raking of the steps must be adequate; these are important aspects of lecture theatre, the ventilation, the lighting, all those ones are important, because they are most critical.
Inv-JC2-DDR-120612-D	The key specification, certainly specified spaces for classrooms, boardrooms, libraries, offices, etc. So they are essentially those academic facilities for students. The specifications were very successful and satisfactory.
Inv-JC3-DDR-120612-D	They are typically the lightings, the ventilation, the headroom volume, and then making sure that there are spaces for parking, for planting of trees. The specifications were achieved tremendously.

Table D29 Quality of 'the project' for case study A

Participant	Response about the quality of 'the project'
Inv-BD-DDR-180612-A	The quality is good. The contractor did an excellent job, except the abuse of use by students, such as smoking in the toilets and putting the cigarette butt inside the toilet. Well, there is this policy of no smoking in public places, but it is a habit which individuals develop, and which is hard to stop also. So when they feel like smoking they go to the toilets and smoke there. There are fire alarms installed there, but the sensors are not working to raise alarm when somebody is smoking. Also, for that to work there must be the assurance of power supply for twenty-four hours, which cannot be guaranteed.
Inv-KM-PAR-240512-A	The quality is okay, no problem.
Inv-PB-CAR-280512-A	What has been produced now is appreciable, although there are some observations that have been made which are cogent reasons that are given on some alterations to be made. But generally, the quality could be rated at 85%. It could not be perfect because of the time frame given, which caused the rush to meet up with the target of the management.
Inv-PY-DDR-140612-A	No response as the project was still at the initiation/conception stage.
Inv-TA-SAR-280512-A	So far the quality is good.

Table D30 Quality of 'the project' for case study B

Participant	Response about the quality of 'the project'
Inv-IB-ADR-300512-B	The quality is related to the content of the contract. Could have gone for something better, but then that was what was specified, and that was used. If higher quality was used, of course it would have been better today, but then, that was the quality that was specified, may be because of the cost. That will have to also wait for another opportunity
Inv-GA-SQS-300512-B	
Inv-MA-PTO-310512-B	The quality of workmanship is okay. The quality of what is brought to site is subjected to scrutiny, whatever material, like rods before accepted. No problem in terms of quality.
Inv-WA-ARC-010612-B	The quality of the project is satisfactory. No problem with the quality of job, except the pace of work, which is slow.

Table D31 Quality of 'the project' for case study C

Participant	Response about the quality of 'the project'
Inv-AM-SQS-040612-C	The quality was okay as the specifications were followed.
Inv-IM-DDR-060612-C	The quality had no problem and was maintained. This was because actions were taken immediately complains were received from the users.
Inv-MS-QSI-060612-C	No response as the project was still at the initiation/conception stage.
Inv-RS-ARC-050612-C	No response as the project was still at the initiation/conception stage.
Inv-SA-CEN-060612-C	The quality is not perfect but marginally okay, perfection cannot be achieved using indigenous contractors.

Table D32 Quality of 'the project' for case study D

Participant	Response about quality of 'the project'
Inv-JC1-DDR-120612-D	No response due to the stage.
Inv-JC2-DDR-120612-D	The quality is good and it could be rated 70/80%.
Inv-JC3-	The quality is reasonable, even with the storm that happened on campus, so many roofs

DDR-120612-D	have got blown off and very negligible part of it was actually affected, so the quality can be said to be good.

Table D33 Performance on/of 'the project' for case study A

Participant	**Response about the performance on/of 'the project'**
Inv-BD-DDR-180612-A	Is good. In fact is serving the purpose. There is a borehole that was sank specifically because of that building, and the borehole is functioning. So at least there is water fairly available, will not be perfect but there is always water, because of the borehole that was sank for that complex.
Inv-KM-PAR-240512-A	In terms of what? In terms of quality? In terms of financing? Apart from the time that was lost, there is no much problem. It is the time lost that has been the major problem, which was beyond control. It is not localised to the university but the whole state.
Inv-PB-CAR-280512-A	In terms of commitment, the university has made effort, but there are still some constraints on the part of the university, in terms of being able to fund some aspects of the project. Case studies visits could not be done because of lack of funds, but now the university has given approval to go for case studies for this particular project and others. After that, final working drawings will be produced, having shared experience and have well understanding, to get the desired result. So but there was a delay on the part of the university management and the lack of some few basic working tools to work with. However, the commitment on the side of physical facilities has been wonderful, except that, in one or two occasions you find some little delays here and there because of also the capacity of those handling some aspects of the designs. This is with specific reference to the engineering section where very few people know how to use AUTOCAD. However, two weeks ago an expert in the use of AUTOCARD has been employed who will handle the structural design of the project.
Inv-PY-DDR-140612-A	No response due to the stage of the project.
Inv-TA-SAR-280512-A	Well the performance of the project can be said to be fair. The only problem is funding basically. To handle that, any correspondence from the consultants concerning the project will be treated without delay.

Table D34 Performance on/of 'the project' for case study B

Participant	**Response about the performance on/of 'the project'**
Inv-IB-ADR-300512-B	The performance is partly successful and partly not. Actually the cause is pre-contract; the decision on what to do in solving the problem, but actually, contractor has nothing to do with it. The solutions proffered were actually not the right solutions, because they have not solved the problem. So the major reason for that failure is the conceptualisation of the solution. The specification given to solve that problem was wrong. The solution can only be brainstormed, but of course the failure of concrete is usually a very difficult

	thing to solve.
Inv-GA-SQS-300512-B	No response because project was at conception/design stage.
Inv-MA-PTO-310512-B	The consultants are always there, the consultants are doing well. The contractor is cooperating.
Inv-WA-ARC-010612-B	It is not up to 50%, maybe 35%. The performance is slow pace of work. The consultants have to be pushed to push the contractor.

Table D35 Performance on/of 'the project' for case study C

Participant	**Response about the performance on/of 'the project'**
Inv-AM-SQS-040612-C	The project is a success as it is being used and there is no complain received from the users.
Inv-IM-DDR-060612-C	The problem is only the water supply which is not sufficient and that is being complemented with borehole and water tankers.
Inv-MS-QSI-060612-C	No response due to the stage of the project.
Inv-RS-ARC-050612-C	No response due to the stage of the project.
Inv-SA-CEN-060612-C	The project has no problem except the contractor who is slow with the pace of work.

Table D36 Performance on/of 'the project' for case study D

Participant	**Response about performance on/of 'the project'**
Inv-JC1-DDR-120612-D	No response due to the stage.
Inv-JC2-DDR-120612-D	Generally, it is okay. There is a project management team on ground and the committee is responsible for the day to day running of the project. They are professionals, engineers and everything. So every hand is on deck to make sure the right thing is done.
Inv-JC3-DDR-120612-D	The performance is very good, very good. It is serving the purpose, in fact they are asking for more of that.

Table D37 Stakeholder satisfaction on 'the project' for case study A

Participant	**Response about the stakeholder satisfaction on 'the project'**
Inv-BD-DDR-	The stakeholders are satisfied, except the borehole, which is not 100% perfect; it is not

180612-A	supplying the entire requirement. There are times when the toilets are not well cleaned because of lack of adequate water supply. As alternative sometimes, the cleaners collect water in drums and try to clean the toilets.
Inv-KM-PAR-240512-A	Well not everybody is fully satisfied. For instance, the vice-chancellor is much disturbed for not being here, because of the time overrun. So for now not all stakeholders are happy. In fact no one is happy, because the project is not completed within the time frame. But because of the insecurity problem and other things it is not possible. The frequency of supervision and monitoring has increased to ensure that the contracts move at a faster speed.
Inv-PB-CAR-280512-A	It is wonderful! Every stakeholder is happy. The federal government is happy about state governments supporting federal projects within their domains. There are some observations made, which have been taken care of in the course of the preliminary sketches. Initially it was six departments that were proposed, but due to the involvement of other stakeholders, the number was raised to nine.
Inv-PY-DDR-140612-A	Presently when talking of all the stakeholders, some of the stakeholders are not in the knowledge of what is happening because the project is at the pre-contract stage. Those who are not involved with the pre-contract stage are not involved and are yet to know of what is happening. But for those who are supposed to take the major decisions in terms of the design, in terms of the acceptability of the site, in terms of how it's going to look like, they are in the knowledge. Those who are responsible for the award have not yet been informed. Once the drawings and the bills of quantities have been completed, then the university management in turn informs the financier, which could be the government or to use internally generated revenue or whatever means. It is after the definite commitment of the financier that the other stakeholders, who will do the award, will come into play, because they need to know the source of funding, which is the due process for the award.
Inv-TA-SAR-280512-A	The satisfaction might not really be there, especially when it comes to the end users, the students. The more it is been delayed the more their academics will suffer. So in that aspect, the end user is not too happy. The contractors too are not happy because of the delay. It is the delay, although the end user might not really know the technicalities involved. The end user is only concerned about the time the project is supposed to be delivered and only looks forward to having the project at that time, without knowing the processes leading to achieving that.

Table D38 Stakeholder satisfaction on 'the project' for case study B

Participant	**Response about the stakeholder satisfaction on 'the project'**
Inv-IB-ADR-300512-B	It is successful, except for the complaint received about the roof from the users. Another issue is the lift shaft, the basement especially; a lot of challenges there too. The tanking also has failed. Still thinking of who to invite, thinking engaging professional structural

	engineer to look at the two issues.
Inv-GA-SQS-300512-B	The entire university community is looking forward to this project. So far, everybody in the university knows about this project because everybody in the university is involved. Everybody is a stakeholder, because the theatre is for the university. So anybody that hears about the project is happy and looks forward to the commencement of the project.
Inv-MA-PTO-310512-B	The Director is not happy with the project, because of the time lost. Consultants are also not happy that the contractor is not moving fast, but the worst unhappy is the client because the client owns the land and the building. Can only be handled by pleading with them.
Inv-WA-ARC-010612-B	Yes they are very happy with it, all the stakeholders, everybody is happy with it. No problem with that.

Table D39 Stakeholder satisfaction on 'the project' for case study C

Participant	**Response about the stakeholder satisfaction on 'the project'**
Inv-AM-SQS-040612-C	The stakeholders, especially the end users are satisfied with the project.
Inv-IM-DDR-060612-C	The only stakeholder in contact is the user. The system of communication with the user is when complains are lodged and attended to, then the user has to certify satisfaction before the maintenance could be said to be completed.
Inv-MS-QSI-060612-C	The client, the consultants, and the end users accept the project. The project is acceptable to all the stakeholders.
Inv-RS-ARC-050612-C	All the stakeholders are satisfied because they are all involved in developing the project.
Inv-SA-CEN-060612-C	Most of the stakeholders are dissatisfied because of the pace of the work on the project by the contractor. The approached being considered to manage that is to caution the contractor on the consequences of such delay.

Table D40 Stakeholder satisfaction on 'the project' for case study D

Participant	**Response about stakeholder satisfaction on 'the project'**
Inv-JC1-DDR-120612-D	For sure, it will be accepted, because there is an urgent need for lecture theatres and studios so will be surprised if it is not accepted, very positive that it will be accepted. It is accepted because a similar project has been done and this is more of a repetition, of something similar, and knowing the response of the previous one, this one is okay. The drawings have since been accepted by the stakeholders. There are no any issues with the project.
Inv-JC2-DDR-120612-D	They are very satisfied and even people outside the university are satisfied. During the last convocation so many stories were said about the particular project; it enhanced the

	image of the university. So all the stakeholders are going to be happy about it.
Inv-JC3-DDR-120612-D	Very satisfactory, they are very happy, they are very happy.

Table D41 Process/steps used for the management of stakeholders on 'the project' for case study A

Participant	**Response about process/steps used for the management of stakeholders on 'the project'**
Inv-BD-DDR-180612-A	Regular building inspection is carried out and building inspection report is produced. This is done by going round and noting certain defects that concern the general public. If it affects an individual, the individual reports to the maintenance office. But in a public environment where no person is directly affected, inspections are made by the head of the section, the building officer (or supervisors) attached to such places, and subordinate officers under the building officer to check defects and reports written for actions to be taken. In certain cases, complaints are not received from students and lecturers, so inspections are made and defects detected and amended for the comfort of the users. By so doing, the users, the project managers and the client are happy.
Inv-KM-PAR-240512-A	On the project, the Physical Facilities periodically writes and submits reports to the university management, which meets regularly to consider. When there is need for clarification, it is referred to the Director of the Physical Facilities. Also, the university management occasionally visit the project site to check the progress of the work and make observations, where necessary, for the attention and action of the Physical Facilities. The stakeholders (the university management) or beneficiaries/users are carried along, and this is done through regular meetings to review the progress of the project. There is no any particular stakeholder management process, except that every project has its specific requirements and type of stakeholder participation. When a new project is proposed, case studies visits are undertaken to share experience before any design and execution.
Inv-PB-CAR-280512-A	There is no specific stakeholder management process as such, but a committee was set up by the management of the University on the four new faculties that would come on board and DPF has a representative, but not all the stakeholders were involved. The state government was not involved in this. It was like a miniature stakeholder team and that is what the management of the university started with. At that level, the designs and bills have been produced and forwarded to other stakeholders that are not within the university set up. However, that was not enough, as the committee needs to be widened to accommodate the prospective sponsors/financiers, that is the state government, NUC (National Universities Commission) and ETF. There is the need for representation from the university management, the Physical Facilities, the state government, the NUC, the ETF, and the students to meet and deliberate over what has been done already on the

	project.
Inv-PY-DDR-140612-A	The processes initiate with the Chief Executive who has the vision of this indoor sports complex or any project. The vision is then passed onto the Physical Facilities Directorate who constitutes the managers of the other stakeholders. Depending on the quantum of the work, the design is done internally or consultants from outside are involved. For small quantum of work, the design is done internally; otherwise consultants are engaged by way of seeking expression of interest, showing competence. From the brief from the Directorate, designs, drawings and estimates are produced by the consultants. After that other stakeholders, such as the procurement committee, the procurement evaluation sub-committee, and the university management are involved. The university management then carries out advertisement where the relevant committees will carry out their functions; the pre-qualification evaluation committee will pre-qualify the contractors; the procurement planning committee gives the bids, and the bids are collected and submitted and then the bids are analysed; then the tenders' board manages the processes of the contract award, and carries out the award. After the award, documentations of the award are made to the financier. Thereafter, the contractor is committed to the work by handing over of the site by the consultant on behalf of the client. From there, the day to day running of the construction is carried out. If the consultants are not appointed on residency, then Directorate of Physical Facilities will in turn carry out the day to day running of the construction while the consultants come on a regular period to evaluate the progress of the work. The Physical Facilities is then responsible for informing the contractor about the regular monthly meeting with the consultants to evaluate the progress of the work and the preparation of progress report to the client to monitor and appreciate what is happening with the project.
Inv-TA-SAR-280512-A	There is a stakeholder management process. The DPF (Directorate of Physical Facilities) directly supervises, and then at the management level there is the tenders' board, who are also stakeholders on the project. The processes is usually meetings where all issues are being addressed, and for now it's usually once in a month. At the end of the month all the stakeholders; the contractor, the end user, the representative of the tenders' board of the university, all sit together to try and see what are the challenges and the way forward.

Table D42 Process/steps used for the management of stakeholders on 'the project' for case study B

Participant	**Response about process/steps used for the management of stakeholders on 'the project'**
Inv-IB-ADR-300512-B	Not only senate building but all buildings are covered by this structure, the maintenance, municipal services. Wherever between the residential and academic areas there is somebody responsible, called maintenance officers. The senate building in particular that

	is where the maintenance officer resides, maintenance officer senate and lodges. The maintenance officer is there to monitor and manage the stakeholders in that building, their needs and that of the building. The maintenance officers with fleet of staff under him do routine maintenance, usually direct. They usually have materials in place for routine replacements like electric bulbs, like cleaning, detergents and things like that.
Inv-GA-SQS-300512-B	There is ETF implementation committee that oversees all ETF projects. They are in charge of monitoring the implementation of these ETF projects. Since the project is part of ETF project, there is an implementation committee in place, not particular for the project, but the implementation committee is general for all ETF funded projects. The stakeholders have meetings regularly. They go round these projects and from time to time, even the vice-chancellor himself is a major stakeholder on the project. He also goes round to check the project. There is no any structure like that. There is no stakeholder management process.
Inv-MA-PTO-310512-B	The only thing is holding meeting with them and to hear their views. For all the projects in the university user is involved from the inception. The other thing is seeking their opinions from time to time, the opinion of the consultant and the contractor. There good relationship with the stakeholders and if there is any problem it is resolved amicably at the site.
Inv-WA-ARC-010612-B	The stakeholders for this project; consultants, contractors, client, and the end users. So every month there is site meeting, whereby each party is fully represented. So at the site meeting everything about the project is discussed and also carry out site inspection, so that anything the contractor say can be verified at the site.

Table D43 Process/steps used for the management of stakeholders on ‘the project’ for case study C

Participant	**Response about process/steps used for the management of stakeholders on ‘the project’**
Inv-AM-SQS-040612-C	The process of stakeholder management is by meeting with the stakeholders. The processes of managing the stakeholders is by calling for round table meeting with them to say what they have seen in the project, what they think should be there or not during the design.
Inv-IM-DDR-060612-C	This is by the use of feedback mechanism, that is, from complains to effecting repairs and certification between the users and the project managers.
Inv-MS-QSI-060612-C	The process is to ensure that consultants meet the client’s desires and to ensure good working relationship with stakeholders.
Inv-RS-ARC-050612-C	This is done by meeting and brainstorming on the project to ensure delivery on time.
Inv-SA-CEN-060612-C	The process is to ensure that there is a good project manager to give good leadership for the management of the project. To manage to manage the entire stakeholders, even

	including the contractors themselves. If there are issues to resolve them.

Table D44 Process/steps used for the management of stakeholders on 'the project' for case study D

Participant	**Response about process/steps used for the management of stakeholders on 'the project'**
Inv-JC1-DDR-120612-D	There are stakeholders and everybody is involved, for example, the designed is being produced, it's been discussed by management. After all that has been agreed, the tenders' board are involved, the council members are involved. In fact, there are times where the tenders' board will insist they want to get all the details of the drawings and bill of quantities, they want to understand clearly. Even the council, before they finally approve the contractor to execute the job, they ask questions, they want to see the drawings, they want to see the bills, they analyse the drawings and the bills. So the stakeholders from one stage to another, they are all involved. They all have to agree.
Inv-JC2-DDR-120612-D	The stakeholders are taken from the department to management, tenders' board and then the council, perhaps sometimes end users and everybody at their own level will make contribution, will be checked, and make sure the right is done.

Table D45 Participants in the stakeholder management process for case study A

Participant	**Response about participants in the stakeholder management process**
Inv-BD-DDR-180612-A	The Director, the head of unit, and the building officer directly in charge and other craftsmen involved in the maintenance of such facilities. They include the plumbers, the electricians, the carpenters, and the masons or bricklayers. The stakeholders are the deans, the Librarian in charge of the library, and the Heads of Departments. Well, usually after the project was completed they were allocated by the space allocation committee of the university. So from the allocation the users/beneficiaries are known. There was a physical planning division that supervised the execution of the project and then handed over to the works and maintenance department for maintaining. Cleaning contractors were involved in cleaning, a private security outfit was engaged in maintaining the security of that building, and the maintenance unit is directly involved in maintenance with its in-house technicians and craftsmen. This directorate is responsible for managing physical facilities in the university. The participants were identified at the post-construction stage, after completing the project and started experiencing all these problems.
Inv-KM-PAR-240512-A	The participants are the VC, the Registrar, the Bursar, and the Librarian. These four are the major with their subordinate staff, who are carried along and participate fully in terms of understanding the project and making specifications. Others are the physical facilities and the consultants. It is not called technique per se, but it is statutory.

	Stakeholders in the university must automatically include the VC or subordinate, such as the DVC (Academic) or DVC (Admin) and the Registrar or any of the deputy Registrars. They are identified from the inception of the project; when the project was conceived.
Inv-PB-CAR-280512-A	The representatives of academic staff and mainly from the building industry, that is Architecture and Building; the representatives from Physical Facilities, the Registry, the Bursary who manage the funds, and then the management, that is the DVC (Academic) who heads the committee on behalf of the university management and since it is an academic building. The technique is by looking at the project itself and then: Who are supposed to be the beneficiaries of the project? Who manages the funds that accrue to the coffers of this project? Who involves in relating to other people outside, communicating others? That is why the registry came in, because they are the people who relate to others, write and communicate on projects. And then look at technical and professional people that will be involved in the design and construction. These are the issues that came on board for the choice of the members of the committee. Firstly, academicians were brought in at the inception, when the government was thinking of expanding the university.
Inv-PY-DDR-140612-A	The participant, the Directorate of Physical Facilities is the major actor in the management of the stakeholders, because it serves as a liaison office, hub in the actualisation of the project between the contractor, consultant, the university management, and the government, that is the financier. The technique is that some of them are statutory, that is some offices have been designated as stakeholders in the management of the project, which are the Vice-Chancellor, the Registrar's office, the Bursar's office, the internal audit office, the legal office. Any other person is brought by the Directorate of Physical Facilities, such as the consultants. There is laid down procedure on how to get a contractor, which is normally a function of legislation. Within the university community, the participants are identified in most cases just before the construction, while the consultants are engaged right from the onset, at the pre-construction stage, and then later during the construction stage.
Inv-TA-SAR-280512-A	At the DPF, there is a team. In the team there is the architect, the engineers and the quantity surveyors. In the tenders' board of the university, there is a representative. Then on the part of the contractor, usually the main contractor, not the sub-contractors is there. They are all present at that meeting. The end user is also a participant. For the award of contract, it's the normal process of publication of the award, but sometimes depends on the amount. If it exceeds N250m, it has to go through the federal tenders' board through the federal ministry of works, but anything below that, it doesn't necessary has to go through that, it goes through the process of advertisement and after that, the opening of tender. Those are the processes, then the final selection of the contractor. The technique used is technical know-how of that particular project and experience. At inception, from the beginning.

Table D46 Participants in the stakeholder management process for case study B

Participant	Response about participants in the stakeholder management process
Inv-IB-ADR-300512-B	The maintenance officer with some fleet of staff under him. This is civil service. People that have started as artisans, electrician, plumber, painter or something like that. Most of them are people that belong to that calibre or group, but have worked, served for a very long time and have grown through some training. When the building came to be, that's right from the beginning of the post-construction.
Inv-GA-SQS-300512-B	The client representatives, the Estate department are involved from inception to completion. The consultants are there to ensure that what they have designed is being carried out physically. The funders also come in when 50% of the project has been achieved. They are also managing every other person that is involved, every other stakeholder. There is no technique; it is automatic by role/responsibility. The consultants have been selected through advertisement in the newspaper, which indicated interest and were selected after competitive bidding, likewise the contractor. The project is at the pre-construction stage now, so it involves advertisement in the newspaper, which is the due process.
Inv-MA-PTO-310512-B	The consultants, the client, and the user. The techniques are the people. The only method used to identify is the role given through other person, like the project manager is the chairman. The client is there to see that the right thing is done, to protect the interest of the university, and then the user usually don't play vital role, because any construction of that magnitude that there is consultant, the user is not expected to say anything. It is believed that the calibre of people on the project can manage it to completion, they are competent to handle it and the user is there. At pre-contract, post-contract and up to completion.
Inv-WA-ARC-010612-B	For the participants, there are project manager, the architects, the structural engineers, the mechanical and electrical engineers, the quantity surveyors, the client represented by the project team from Estate Department, and the users represented by the Dean of Faculty of Law. The consultants are selected by competing based on experience and signing contract; the client's project team are automatically selected by role/responsibility; and the users because they are the beneficiaries of the project. The participants are important in the construction stage, when the real construction is taking place. The tender analysis committee are involved at the pre-construction phase only, while the users are involve from the pre-construction phase.

Table D47 Participants in the stakeholder management process for case study C

Participant	Response about participants in the stakeholder management process
Inv-AM-SQS-040612-C	The participants are the project managers and the users who know themselves. The participants were identified from the inception of the project when it was conceived.

Inv-IM-DDR-060612-C	The participants are the project managers and the users. The project managers were established by the statute of the university for that and are identified at the maintenance stage.
Inv-MS-QSI-060612-C	The representatives of the client, the project management team; the representatives of the consultants, the contractor, and the users. The techniques used to identify the participants depended on the type of participant. The client's representatives have that as part of their roles; the consultants and the contractor were identified through the process of competitive bidding; and the users chose their representative being the beneficiaries of the project. The project life cycle stage at which the participants were identified depended on the participant. The client's representatives were identified from the inception of the project and remained until completion; the users' representatives may be from the inception but not there during the construction; and the consultants were from the inception until completion.
Inv-RS-ARC-050612-C	The project managers and the consultants are the participants. The technique used to identify them was the decision of the consultant and that was done at the design stage.
Inv-SA-CEN-060612-C	The project manager, the client's representative and the consultants as the participants. The participants were identified by relevance to the project at the conceptualisation stage of the project.

Table D48 Participants in the stakeholder management process for case study D

Participant	**Response about participants in the stakeholder management process**
Inv-JC1-DDR-120612-D	The physical planning professionals that initiate the project, the concept of the project, the management of the university, they are involved, the tenders' board are involved, and then finally the council members are involved. At the departmental level, strictly professional, at the management level it is the management of the university, normally it is opened to the professional, but that is not to say they don't have idea. For example, the bursar could give an idea about what was done in a similar project on a project at hand, so everybody contributes. The tenders' board too, there might be professional, could be external members who are professional, they analyse and they contribute effectively. The participants are identified at all stages, from beginning to the end, even when the building is being used.
Inv-JC2-DDR-120612-D	At the departmental level, the professionals, at the tenders' board, the council members and then the proper full council members, and then the end users, that means people from the school and departments concerned, they are also participants. Well, from the needs of the project, we know who is concerned and then who will contribute, and therefore they are approached and discussion is held, either in writing or verbally, they make their own contribution, that's how we go along. All stages, even if the building is in use.

Table D49 Qualifications of participants in the stakeholder management for case study A

Participant	Response about qualifications of participants in the stakeholder management
Inv-BD-DDR-180612-A	The qualification is professional competence. The head of engineering services is a registered engineer and the electrical engineers are all registered engineers, COREN (Council for the Regulation of Engineers in Nigeria) registered engineers. May be experience.
Inv-KM-PAR-240512-A	It is not about qualification, but it is statutorily, by position, it is automatic.
Inv-PB-CAR-280512-A	Must be in the academics to qualify as a member of this particular stakeholder team. Another qualification is that, the participant must also be a professional in the building industry. Physical facilities qualify for its position as the manager of the property of the university. The bursary is brought in as the custodian and management of the funds that accrue.
Inv-PY-DDR-140612-A	First and foremost, the qualification is the issue of experience. From the Directorate of Physical Facilities, apart from being professionals in their various fields, they must be senior officers of the profession. For the statutory positions, such as the Registrar, the Bursar, the Vice-Chancellor, these ones are laid down. For the consultants, they must be professionally registered with their various professional bodies. For the contractors, they must be registered with CAC (Corporate Affairs Commission).
Inv-TA-SAR-280512-A	In terms of the tenders' board, it is a combination of a particular set of people from different departments within the university, because in the tenders' board there are people that handle finance, there is member from the bursary department. Then there is a technical person too, and DPF that handles the technical aspect.

Table D50 Qualifications of participants in the stakeholder management for case study B

Participant	Response about qualifications of participants in the stakeholder management
Inv-IB-ADR-300512-B	What qualifies should certainly be knowledge and experience; these are the two basic things. But what qualify somebody to be a maintenance officer are qualification and education, knowledge and experience. Most of the maintenance officers have a particular knowledge but is not wide and they hardly even understand what they should be doing, but that is an issue of also the level of education.
Inv-GA-SQS-300512-B	As the Vice-Chancellor, qualification is automatic as the head of the institution. The DVC (Academics) also qualifies to be part of this. As the Director of Academic Planning, you are the desk officer for all ETF projects, which this is part of. For the consultants, you show interest with professional competence and experience, likewise

	the contractor. For every project, a team is selected made up of an architect, a quantity surveyor, and probably a structural engineer from the Estate Department.
Inv-MA-PTO-310512-B	What qualifies the consultants is that they are engaged and entered a contract. On the part of client's representative, it is automatic as employees and as role/responsibility.
Inv-WA-ARC-010612-B	For the professionals, they are qualified to be in that stakeholders meeting because they are the consultants. They are the ones that design the building. The client's representatives are qualified because of the office they holding. Then the beneficiaries because they are the custodians of the facilities.

Table D51 Qualifications of participants in the stakeholder management for case study C

Participant	**Response about qualifications of participants in the stakeholder management**
Inv-AM-SQS-040612-C	The qualification was relevant educational background for the project managers and for the users; it was their status as beneficiaries.
Inv-IM-DDR-060612-C	The users qualified as beneficiaries while the project managers are statutorily responsible for the maintenance of the project.
Inv-MS-QSI-060612-C	Educational background, professional competence and experience were the requirements for the consultants' representatives, the client's representatives, and the contractor's representative to participate.
Inv-RS-ARC-050612-C	The consultants, the contractor, and the client require professional competence and experience to participate, while the users are not involved at that stage.
Inv-SA-CEN-060612-C	Relevant educational background and professional competence and experience are the qualifications for participation.

Table D52 Qualifications of participants in the stakeholder management for case study D

Participant	**Response about qualifications of participants in the stakeholder management**
Inv-JC1-DDR-120612-D	In the department level, they are professional; architects, engineers, and quantity surveyors. In the management, they are degree holders generally, they are members of management; that is to say that they must have gone through university and they are graduates and they have their second degree or third degree and they have good working experience. Some of them are not professionals but because of their experiences in their administration, they can tell what will happen and how it will happen and give appropriate advice, same thing with the tenders' board. Like in tenders' board, there could be some professionals coming from outside, for example, the external council members. There could be professionals, sometimes some of them are professionals and

	they give very good input to some of these processes.
Inv-JC2-DDR-120612-D	Well, good knowledge of what is needed and good knowledge of what should be done and how it should be done.

Table D53 Techniques of stakeholder management for case study A

Participant	**Response about techniques of stakeholder management**
Inv-BD-DDR-180612-A	It is the breakdown maintenance that is applied, when things have broken down, and then problem is solved. There is also the inspection aspect to carry out preventive maintenance before things cease to function, such cleaning up of the roof regularly so that pipes are not blocked.
Inv-KM-PAR-240512-A	No response
Inv-PB-CAR-280512-A	Before the award of contract, presentations are made to the Senate of the university, who are stakeholders. The Vice-Chancellor, the Bursar, the Registrar and the Librarian are members of the senate and are also members of the management. Then regularly, Physical Facilities who manages the construction of these projects give report to the management on a monthly to know the level of the project. And if the state government is involved, reports of the project will also be sent to them or they also nominate a member to the team that can be reporting back to them.
Inv-PY-DDR-140612-A	The method depends on the management ability of the Directorate. If the headship of the Directorate is a good manager then the inputs required or the participation of each stakeholder are gotten, that is how it is normally monitored. So far, assignments are given out to the officers to carry out design and officers to carry out field study through memos. After that, you come together as a team to carry out a critique of what these other officers are doing at this stage.
Inv-TA-SAR-280512-A	In the aspect of management, the technique used is meetings, monthly site meeting, although the Directorate of Physical Facilities visits the project site regularly to monitor the progress of the work. If any problem or challenge is observed, the consultants are contacted to proffer solution. It's only the consultants that can give instructions or changes. The Directorate only liaises with the consultants on the project to work out the solution that can be suitable for that particular problem.

Table D54 Techniques of stakeholder management for case study B

Participant	**Response about techniques of stakeholder management**
Inv-IB-ADR-300512-B	The technique is technique of preventive maintenance. The maintenance officer should have a technique, a method, a system in place that somebody must look at a place within a particular span of time. In that case, may be daily to ensure that everything is in order

	such as the toilets for example.
Inv-GA-SQS-300512-B	No response
Inv-MA-PTO-310512-B	The only technique is that every request is written to the Vice-Chancellor, who seeks the advice of the Director before taking any action, since the Director is the professionally qualified person to advice the Vice-Chancellor on any matter concerning the project. The Estate Department liaises with other stakeholders on behalf of the university. Whatever complains received from other stakeholders; Estate Department liaises, mediates and see that it is resolved.
Inv-WA-ARC-010612-B	Actually site meeting is the major thing because everything is normally discussed at the site meeting. Normally all the stakeholders are informed about when there will be site meeting through email and through text messages. That's how the stakeholders are managed.

Table D55 Techniques of stakeholder management for case study C

Participant	**Response about techniques of stakeholder management**
Inv-AM-SQS-040612-C	The techniques used were the technique of involvement and communication with the stakeholders.
Inv-IM-DDR-060612-C	The technique is by communicating with the users.
Inv-MS-QSI-060612-C	The technique is that of free engagement and participation.
Inv-RS-ARC-050612-C	This was done by the higher authority, the Chief Executive of the university, which are the Vice Chancellor and the Director of the unit.
Inv-SA-CEN-060612-C	The technique was that of participation and brainstorming.

Table D56 Techniques of stakeholder management for case study D

Participant	**Response about techniques of stakeholder management**
Inv-JC1-DDR-120612-D	Apart from calling for a meeting and everybody contributing? Nothing particular, but getting everybody around and may be around a round table and opening, explaining things to everybody and everybody making their own input and then testing input.
Inv-JC2-DDR-120612-D	The method used is to call for meeting, submission or discussion or ask even on phone. There are so many medium.

Table D57 Outputs of 'the project's' stakeholder management process for case study A

Participant	Response about outputs of 'the project's' stakeholder management process
Inv-BD-DDR-180612-A	The expectation is that everybody should perform their duty. The cleaning contractor should work well; the university security should ensure that the facilities are not vandalised, because there was a time the switches of the two generators were stolen and it took quite some time before they were replaced. The security is very important to ensure that the users of the building enjoy it. Imagine using that place without light, it is not good, just because of something that is worth seven hundred and fifty thousand naira or so, but it took time before it was replaced. The output is okay, it is good. Especially as the building is very close to the manager, unlike some other buildings that are very far such that transport is needed to monitor them.
Inv-KM-PAR-240512-A	Well the output is that, at the end of the day, a project that is agreeable by all stakeholders is produced, because everybody has contributed in one way or the other.
Inv-PB-CAR-280512-A	Well at this level, when the first presentation was made, there were observations and the observations were actually very cogent observations, which changed the number of departments from six to nine for the faculty. As information and level of performance are communicated to the stakeholders, observations are raised to fine-tuned the work and come with the required quality of work, within the required time.
Inv-PY-DDR-140612-A	Yes the expectation would have been submission of all the working drawings or submission of all that is required. However, for now it is only the preliminary estimates that are ready, so those are the outputs. There was an initial hiccup in the engineering services team, because the drawings that were submitted to them for engineering works, they made observations, because the architects produced a large span and then they made observation that, that large span are going to cost in the roofing of that area. And on that strength, the gallery, somebody sitting on the gallery will not be able to see the actors while in play. Therefore there is the need to redesign the structural elements that is what is holding the completion of that engineering aspect of the work. Yes so far, on this very project, only the architectural drawings have been produced. The service engineers are still trying to work to get their own input that will help conclude on this. Engineering drawings are what are currently being worked on.
Inv-TA-SAR-280512-A	The output expected is the speedy resolutions of all the challenges. Also expected is the quality of work that is specified should be what should be achieved. The achievement is not much.

Table D58 Outputs of 'the project's' stakeholder management process for case study B

Participant	Response about outputs of 'the project's' stakeholder management process
Inv-IB-ADR-300512-B	The expectation is excellence, which is the essence of work. You are supposed to be improving by the day, to be seeing areas of challenges and trying to surmount them, stop them, and then improve upon them. Improvement is expected over time, since it has started with the public places. It is reasonable now, since at least a lot of the issues that are pro-evident are being addressed, even though that can only be defined in this context, the locality. It is expected that users should report problems with their office, although there should be in place regular checks in offices, even if it is once in a month, within two weeks you would have gone through all offices to check the functioning of the toilets and electrical fittings, and then of course ask questions. It can be said to be fair, but not expected as the standard.
Inv-GA-SQS-300512-B	
Inv-MA-PTO-310512-B	It is expected that the participants come out. The main objective any project is to see that it is finished successful. So it is to relate well for the project to be a reality, not to be abandoned, because it will attract some additional money. The output expected is that everybody should be carried along in order to cooperate and give the best to the project to succeed. The result is okay.
Inv-WA-ARC-010612-B	The expectation is if there is any architectural problem, the architect should resolve it, the same with the structural engineer and other consultants. On the part of the client, when there is problem in cash flow, it must be ensured that the contractor gets money and continue the work. The beneficiaries are observers, they have little output in the project, as they will not make any changes and they will not add anything, but just to make sure what is in the document is what is transmitted to the site. The output is the success of the work, to make sure that the work succeeds and the best quality of work.

Table D59 Outputs of 'the project's' stakeholder management process for case study C

Participant	Response about outputs of 'the project's' stakeholder management process
Inv-AM-SQS-040612-C	The output was the completion of the project which was successful.
Inv-IM-DDR-060612-C	The satisfaction received from the user which had been excellent because the user was usually involved in solving the problem from the complaint.
Inv-MS-QSI-060612-C	The output was the input of the participants and the ability to relate well with each other.
Inv-RS-ARC-050612-C	It was to ensure that the contractor adhered to the specifications and programme of work which were followed.
Inv-SA-CEN-060612-C	The output was the delivery of the project which at the stage or level the project was satisfactory.

Table D60 Outputs of ‘the project’s’ stakeholder management process for case study D

Participant	**Response about outputs of ‘the project’s’ stakeholder management process**
Inv-JC1-DDR-120612-D	The outputs are their suggestions and their contributions are useful at all stages. Some of them, though they are not professionals, it is very useful, even in analysing some of the documents or submissions made by tenderers could be very useful. Apart from their contributions, nothing more and seeing that it is implemented.
Inv-JC2-DDR-120612-D	Suggestions are expected, criticisms and advice or what is being done. The outputs are good and they are useful and they are being implemented.

Appendix E: Cover Letter for Validation of Framework

Dear Respondent,

I am a PhD research scholar at the Institute for Resilient Infrastructure in School of Civil Engineering at University of Leeds in the UK. I am conducting a study for improving the success of public sector projects in Nigeria using the process of project stakeholder management. The title of the research is "***Management of project stakeholders: Facilitating project success in public sector projects in Nigeria*",** which is funded by the Tertiary Education Trust Fund, TETFund (formerly Education Trust Fund, ETF) Nigeria. The aim of this research project is "*to propose a suitable and effective approach that will contribute towards the improved management of stakeholders in public sector projects in Nigeria".* The objective of this exercise is "*to validate the integrated framework proposed for project stakeholder management in public sector projects in Nigeria"*. Through your participation, I eventually hope to produce an improved framework for the purpose of achieving this objective and the aim of the research project.

Accompanying this cover letter are the proposed integrated framework and show card to refer to when answering the questions, as well as the validation questionnaire, an alternative to the link on Bristol Online Survey (BOS) that asks a variety of questions to be answered by you, based on your objective views. I am asking you to look over the questionnaire and, if you choose to do so, complete it using the Bristol Online Survey (BOS) system, the link of which will be sent to your email, and after answering, you press the "submit" or "finish" button which automatically sends your response back to me through the BOS system. The alternative soft copy sent to your email is for you to decide which is convenient to you. Feel free to use any other means to convey your comments/thoughts, apart from the BOS window.

You have been selected to participate at this stage and in this part of the research because of the wealth of knowledge and experience I believe you can bring to this research.

If you choose to participate, you do not need to write your name or disclose your identity on your response. Also, no one else will know that you participated in this study. Your responses will not be identified with you personally, nor will anyone be able to determine which company you work for. Nothing you say on the questionnaire will in any way influence your present or future employment with your organisation.

I hope you will take some time out of your tight schedule to complete the questionnaire. Without the help of people like you, this research will be incomplete. Meanwhile, your participation is voluntary and there is no penalty if you do not participate.

If you have any questions or concerns about completing the questionnaire or about participating in this study, you may contact me at +447769226467, +447448827856 or cnaiid@leeds.ac.uk. This study has been approved by the Research Ethics Review Committee at University of Leeds.

Sincerely,

Signed
Audu Dakas

Supervisors: Prof. Denise Bower (D.A.Bower@leeds.ac.uk) and Dr Apollo Tutesigensi (A.Tutesigensi@leeds.ac.uk)

Appendix F: Framework Validation Questionnaire

Questionnaire for validation of integrated framework for managing project stakeholders in construction projects in Nigerian universities

Question 1

Context and content of framework

This seeks to determine the appropriateness and adequacy of the framework to address the shortcomings in the literature and empirical studies. Refer to the accompanying integrated framework in the email, especially Figures 1 - 3 which capture the concepts of the framework.

(i) Based on your experience of the management of projects in the universities in Nigeria, and the results of the empirical studies and literature review which show shortcomings in the management of project stakeholders, would you say that the context and content of the accompanying integrated framework is appropriate and adequate to improve project stakeholder management, project delivery and maintenance, and thus project success in construction projects in the university?

(a) Yes (b) No (c) Don't know

(ii) If your response to question (1) above is **No**, in what way and how would the framework be revised for the improvement of project stakeholder management in the university?

Question 2

Project stakeholder management process

This section seeks to validate the proposal for a formal and systematic project stakeholder management process that is practical for application, considering participants in the process, their qualifications, techniques of the process, and outputs of the process. Refer to Section 2.1 on "Process for project stakeholder management" in the accompanying integrated framework in the email, and more specifically the "Project stakeholder management process" on Figure 2.

(i) Based on the findings from the empirical studies, showing lack of formal and systematic project stakeholder management process for managing project stakeholders, would you say that the proposed project stakeholder management process in the framework will improve the management of the project stakeholders in the university?

(a) Yes (b) No (c) Don't know

(ii) If your response to question (2) above is **No**, in what way and how would the proposed project stakeholder management process be revised for improvement?

Question 3

Project management knowledge areas and competence

This attempts to validate the adequacy of project management knowledge areas and competence for stakeholder and project management in construction projects in the university. Refer to Section 2.2.2 on "Qualifications of participants in stakeholder management" in the accompanying integrated framework in the email.

(i) Based on the findings from the empirical studies showing weak breadth and depth understanding of the concept of project management by project management teams, and your understanding of this framework, would you say that, the recommendation on project management knowledge areas and competence will adequately improve the knowledge and competence of project management teams in the university?

(a) Yes (b) No (c) Don't know

(ii) If your response to question (3) above is **No**, what revision(s) is/are necessary to improve the knowledge and competence of project management teams to manage stakeholders and projects in construction projects in the university?

Question 4

Project management information system (PMIS)

This seeks to validate the proposal for PMIS in the integrated framework for project information/data management. Refer to Section 2.2.5 on "Documentation in project management information system (PMIS)" in the accompanying integrated framework in the email.

(i) On the basis of the poor or lack of project information/data documentation and management from the empirical studies, would you say that the proposed project management information system (PMIS) in the integrated framework can improve project information/data contents, storage, and management/maintenance in the university?

(a) Yes (b) No (c) Don't know

(ii) If your response to question (4) above is **No**, based on your experience/knowledge of the management of projects in the universities in Nigeria and this proposal, in what way and how can the PMIS be revised for improvement?

Further comments

This section seeks any further comments and inputs from the respondent to improve the framework.

Question 5

Based on your experience/knowledge of the management of projects in the universities in Nigeria and awareness brought by this framework, in what other ways and/or how would you think project stakeholders can be managed on university projects to improve project success?

Question 6

Please state other general comment(s) or thoughts on and about the framework, the research and research findings, and proposals/recommendations.

Thank you

Appendix G: Ethical Review Amendment

Performance, Governance and Operations
Research & Innovation Service
Charles Thackrah Building
101 Clarendon Road
Leeds LS2 9LJ Tel: 0113 343 4873
Email: ResearchEthics@leeds.ac.uk

UNIVERSITY OF LEEDS

Audu Dakas
School of Civil Engineering
University of Leeds
Leeds, LS2 9JT

MaPS and Engineering joint Faculty Research Ethics Committee (MEEC FREC)
University of Leeds

Dear Audu

Research title	**Management of project stakeholder: Facilitating project success in public sector projects in Nigeria**
Ethics reference	**MEEC 11-039, amendment Sept 2013**

I am pleased to inform you that the amendment listed above has been reviewed by the MaPS and Engineering joint Faculty Research Ethics Committee (MEEC FREC) and I can confirm a favourable ethical opinion as of the date of this letter. The following documentation was considered:

Document	*Version*	*Date*
MEEC 11-039 Amendment Sept 13 Integrated framework for the management of project stakeholders in the public sector in Nigeria final (2).docx	1	13/09/13
MEEC 11-039 Amendment Questionnaire for validation of the integrated framework for managing project stakeholders in construction projects in Nigerian universities.docx	1	13/09/13
MEEC 11-039 Amendment Sept 13 SHOW CARD FOR THE INTEGRATED FRAMEWORK FOR THE MANAGEMENT OF PROJECT STAKEHOLDERS IN FEDERAL UNIVERSITY PROJECTS IN NIGERIA.docx	1	13/09/13
MEEC 11-039 Amendment Sept 13 Target population for the evaluation of the integrated framework.docx	1	13/09/13
MEEC 11-039 Amendment Sept 13 Audu Amendment form for ethical review1.pdf	1	13/09/13
MEEC 11-039 Amendment Sept 13 consent-forms.doc	1	13/09/13
MEEC 11-039 Amendment Sept 13 Research participant cover letter.docx	1	13/09/13

Please notify the committee if you intend to make any further amendments to the original research as submitted at date of this approval, including changes to recruitment methodology. All changes must receive ethical approval prior to implementation. The amendment form is available at http://ris.leeds.ac.uk/EthicsAmendment.

Please note: You are expected to keep a record of all your approved documentation, as well as documents such as sample consent forms, and other documents relating to the study. This should be kept in your study file, which should be readily available for audit purposes. You will be given a two week notice period if your project is to be audited. There is a checklist listing examples of documents to be kept which is available at http://ris.leeds.ac.uk/EthicsAudits.

We welcome feedback on your experience of the ethical review process and suggestions for improvement. Please email any comments to ResearchEthics@leeds.ac.uk.

Yours sincerely

Jennifer Blaikie
Senior Research Ethics Administrator, Research & Innovation Service
On behalf of Professor Gary Williamson, Chair, MEEC FREC

CC: Student's supervisor(s)